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PEABODY MUSEUM OF ARCHAEOLOGY AND ETHNOLOGY
HARVARD UNIVERSITY
VOL. II, NO. 1

**ANTHROPOLOGICAL COMPOSITION OF THE
POPULATION OF CENTRAL ASIA, AND THE
ETHNOGENESIS OF ITS PEOPLES: I**

BY

L. V. OSHANIN

Translated by Vladimir M. Maurin

Edited by Henry Field

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P R E F A C E

This study forms the first of three parts of the "Anthropological Composition of the Population of Central Asia, and the Ethnogenesis of Its Peoples," Transactions, New Series, No. XCVI, Historical Sciences, Vol. 16, pp. 1-138, by Dr. L. V. Oshanin, published by Yerevan [formerly Erivan] University, 1957, in collaboration with the Ministry of Higher Education of the USSR and the V. I. Lenin State University of Central Asia.

Dr. Oshanin, whom I met during the International Scientific Congress in Leningrad in 1945, very kindly offered to send me these three sections of his basic anthropometric study on the peoples of Central Asia for translation and publication.

This volume was translated by Mr. Vladimir M. Maurin, who has had special experience in the translation of Russian documents for the past fifteen years. His care, particularly in the transliteration of proper names of authors and titles in accordance with the style adopted by the Library of Congress, is greatly appreciated.

Mr. Eugene V. Prostov, with whom I have published a number of summaries of Soviet Archaeology,* has made many helpful suggestions dealing with the transliteration of Chinese, Arabic and Persian place-names. His explanatory comments appear in the Notes. I am most grateful for his expert assistance.

The spellings of tribal and geographical names follow standard usage in the United States. In some cases the exact transliteration has been used. With regard to the transliteration of proper nouns, geographical names and bibliographical references, Mr. Prostov wrote:

All place-names in contemporary USSR (and recent Russian Empire) have been transcribed in accordance with the practice of the U.S. Board on Geographic Names.

Distinction was made whenever feasible between the generic name as well as the generic terms. Region, Oblast and Krai (region of and area of or general area of, respectively) and the same words used as part of "administrative-territorial subdivisions in the sense of, roughly, county, province, and territory of the Soviet Union." The latter are always capitalized.

Ancient and pre-Russian Oriental names in Soviet Asia have been given accepted Anglo-American forms in the case of classical Greek and Roman references. Chinese toponymic and other proper names, wherever identifiable, have been given in the standard Wade-Giles transcriptions; otherwise as transliteration of Russian original in accordance with the Library of Congress transliteration.

The transliteration of the Arabic, Persian and Turkish names follow that adopted by the Peabody Museum. In the absence of fully standard reference sources for the Turkic, Mongolic, etc., proper names and toponyms including tribal designations have for the most part been transcribed from the Russian transliterations of nominative singular, in case of tribes given by Oshanin. In a few cases, these have been replaced whenever there were English or American forms well established in standard reference works.

All bibliographical references, including the names of the authors and the text, in the case of Russian and other Soviet publications have been given in the Library of Congress transliteration, omitting diacritical marks and ligatures. The names of foreign authors when cited in connection with Russian-language publications have been retranscribed to the original Western form. Russian titles of articles, monographs, periodical publications, etc.,

* See my "Bibliography of Soviet Archaeology and Anthropology, 1936-52" in: Henry Field, "Contributions to the Anthropology of the Caucasus," Peabody Museum Papers, Vol. 48, no. 1, pp. 117-19, Cambridge, 1953. Here are listed 101 titles of which Nos. 2-5, 7-13, 15, 18-22, 24-62, 73 and 88 were translated by Mr. Eugene V. Prostov. See also my "Bibliography, 1926-1961" with Nos. 1-538 dated June 4, 1961, and distributed privately.

referring to local Central Asian publications unavailable in United States libraries, have been transliterated word for word, with the volume, part, etc., given as in the original. The capitalization of the original titles of serials was followed literally, except where capitalizing the first word of the corporate entry would facilitate finding the given publication in United States library catalogs and union lists. Translations have been given of all Russian titles. It was not practicable to supply, in the Bibliographical Section, the inclusive pagination which is not given in the original in keeping with the local bibliographical style used by Oshanin.

In the case of some of the more common publications as *Sovetskaia Etnographia*, references are to year and number instead of to volume in keeping with publishers' practice.

Certain arbitrary spellings of place-names have been followed with variants in parentheses the first time the name is used. Wherever possible I have selected the preferred spelling used in my, "Contributions to the Anthropology of the Soviet Union," *Smithsonian Miscellaneous Collections*, Vol. 110, no. 13, pp. 1-244, 1948.

As Editor, I inserted the anthropometric terminology and arranged the statistical data to conform to the Harvard System of presentation. This simplifies the comparison of the results obtained by Oshanin in Soviet Central Asia with those from south of the Soviet border ranging from eastern Anatolia through Iran, Afghanistan to northern Pakistan, and northwestern India.* In order to elucidate the text I have added some references and dates in brackets. However, the numbers in brackets referring to references in the Bibliography were inserted by Oshanin. Since there are numerous references to major and minor racial groups, it was decided to capitalize Race only when referring to Mediterranean, Europeoid, Mongoloid and Negroid. Oshanin usually refers to these Races as the Great Mongoloid Race, etc.

Since Soviet anthropologists prefer to be referred to by their surnames, this procedure has been followed. The initials of each author are given in the Bibliography.

Attention must be called to the following:

- (a) In most cases we have followed Oshanin's paragraphs.
- (b) Anthropologists usually mean physical anthropologists.
- (c) In our terminology anthropological should generally be read as anthropometric.
- (d) Kirghiz has been used for singular and plural forms.
- (e) Turkized is preferred to Turkicized.
- (f) Bizygomatic breadth is used instead of bizygomatic diameter.
- (g) Figure 1 illustrating the "Mongoloid fold" has been omitted.
- (h) Anterior Asia has been used in preference to Near East or Asia Minor.
- (i) Central Asiatic Interfluvial Region has been used in preference to Interfluminal.
- (j) Dr. Oshanin sent some substitutions for the racial types in the Illustrations. These photographs were taken by L. V. Oshanin during 1927 and 1929. The Reverend Franklin L. Couch, Tyringham, Massachusetts, made enlargements of Nos. 9-10, 13 and 14.
- (k) Iülle near Budapest is not listed in U.S. Board on Geographic names - Hungary. In Widener Library a Hungarian Staff member suggested this might be Füle or Füleki since the former means a region or area.
- (l) According to W. Barthold in the *Encyclopaedia of Islam* the Kipchaks are described as being "the same people were of course called Polovtsi" by the Russians and "Comani" by

* See Henry Field, "Ancient and Modern Man in Southwestern Asia: I," University of Miami Press, 1956, with 156 tables and Vol. II published in 1961 with 68 tables and 84 graphs. See also under Physical Anthropology in the Subject Index to my "Bibliographies on Southwestern Asia: I-V" by Dr. Edith W. Ware, University of Miami Press, 1961; also same heading in Subject Index to Bibliographies: VI-VII by Mrs. Edith M. Laird, 1964.

western Europeans. Sir Charles Eliot in his article on "Turks" in the *Encyclopaedia Britannica* writes that Coman or Kuman is a name given by Europeans to the tribes who occupied Moldavia and the adjacent regions in the Middle Ages. Rubruquis speaks of the Coman Kipchaks and it is probable that the Comans were a hybrid Turkish tribe. *Der Grosse Brockhaus* spells the word Kumanen or Komanen, the second form being in smaller type than the first. *Webster* gives Coman as "the language of the Medieval Kipchak Khanate" and Kuman as "one of an early people assimilated with modern Hungarians."

Gratitude must be expressed to Mrs. Edith M. Laird, who contributed (k) and (l) above and checked the IBM copy and letterpress.

The typing of the first draft was prepared by Mrs. Charlotte Weed, who also assisted with the checking against Mr. Maurin's handwritten copy.

At my Research Center in Coconut Grove, Florida, Mrs. Birdie P. Levine retyped the text for final editing by Mrs. Naomi Stratton, Editor of Peabody Museum publications, and myself.

The composition of the copy for photo-offset was prepared on my IBM electric typewriter by Mr. Mark Grant, whose editorial and technical skills, especially with the statistical tables, are greatly appreciated.

Mrs. Stratton made editorial changes to conform to Vol. I, Nos. 1-3 in this Russian Translation Series. We are grateful for her assistance and valuable suggestions for clarity of presentation.

Dr. J. O. Brew, Director, Peabody Museum, encouraged the publication of this summary of Dr. L. V. Oshanin's lifework on the anthropometry of the peoples of Central Asia.

We are deeply grateful to Dr. Oshanin for granting permission for this translation and publication. With sadness we must report the death of Dr. Oshanin on January 12, 1962, in Tashkent.

HENRY FIELD

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INTRODUCTION

ETHNOGENESIS AS A COMPLEX PROBLEM AND THE ROLE OF ANTHROPOLOGY IN ITS SOLUTION

1. Anthropology as an Historical Science

Owing to the very character of the object of its study, Anthropology occupies a borderland between Natural History and the Humanities. It is a part of Natural History to the extent that Man is studied as the final link in the evolution of the animal kingdom and, simultaneously, Anthropology appears as a part of the history of present-day mankind to the extent that it studies Man in his present form.

Anthropology sheds light on three important stages of one and the same historical process: the origin of the present-day human species; the process of differentiation of this species into so-called human races; and the process of the formation of various tribes, nationalities and nations from the existing human races.

Three independent branches of Anthropology correspond to the three problems indicated: Anthropogenesis, which deals with the problem of the origin of man; Race Genetics and Ethnology, which trace the origin of human races and their morphological characters; and Ethnogenesis, which comprises the historical process of the formation of present-day tribes, nationalities and nations from those races.

These three problems do not exhaust by any means the content of Anthropology. However, the study of the three stages of the same historical process, i.e., Anthropogenesis, Ethnology and Ethnogenesis, represents one of the most important tasks of Anthropology.

From this point of view, Anthropology appears foremost as an historical science in the very broad sense in which the founders of Marxism understood history, namely as pointed out in the epigraph¹ of the Introduction.

Some phenomena in Anthropology are controlled completely by the laws of Natural History, others partly by these and partly by social laws. A third category is subject almost entirely to social laws. To the first category of phenomena belong the most ancient stages of the origin of man, the study of the links in the chain which binds human origins to the evolution of the vertebrates, beginning with the most primitive skull-less forms up to the anthropoid apes. The second stage relates Anthropogenesis in its narrow sense, i.e., the study of the evolutionary process from the appearance of the first fossil men (Hominidae) to the emergence of the present human types of species, and the early stages of the differentiation of this species into present-day human races.

During this stage, with the production of tools, appears a completely new historical factor which plays an ever-increasing role, i.e., conscious human labor. The third and last stage comprises the migration and mixing of various human races and their grouping into tribes, nationalities and nations.

Each of the three above-mentioned problems of Anthropology belongs to the category of complex problems necessitating for their solution the application of factual

material and the use of basic conclusions, not of one but of a number of sciences. The early stages of Anthropogenesis can be elucidated with sufficient fullness only by means of the comparative anatomy of man and the vertebrates, of their comparative embryology, and the data contributed by Palaeontology and Geology from the Cambrian to the Quaternary Periods.

Later stages of Anthropogenesis must take into consideration the palaeontology of fossil hominids, the zoology of primates, Quaternary Geology and Palaeontology, and, from the Humanities, especially the history of primitive society. The last stage, the process of migration and mestization of the already formed various human races, and the history of the formation of tribes, nationalities and nations, requires on the one hand the use of data from Anthropology, a biological science, and on the other, data from the Humanities--History, Archaeology, Linguistics and Ethnography.

During the period of Soviet rule, the combined efforts of anthropologists-ethnologists and of scholars of the enumerated Humanities created a completely new branch of the science of history which in our country received the designation Ethnogenesis.

As we have already noted in this Introduction, Anthropology and every one of the adjacent disciplines in the field of Humanities have distinct assignments in the task of elucidating various aspects of the process of Ethnogenesis; they bring to bear their own concrete factual material, and utilize their specific methods of research. However, none can dispense with utilizing the data of all other disciplines which participate in the investigation of the complex problem of Ethnogenesis. Nevertheless, no matter from which point of view one approaches this problem--from the point of view of Anthropology, History, Archaeology, Linguistics or Ethnography--the various aspects of the ethnogenetic process can be properly dealt with only by the application of the method of Marxism-Leninism.

Of great significance for the Marxist elucidation of ethnogenetic problems are the writings of Stalin concerning the problem of nationalities [71] and the problems of philology [74].

Since prehistoric times, Central Asia has been inhabited by various human collectives. In the early stages, during the period of the clan organization, these collectives consisted of family groups, then of tribes composed of such groups, then of nationalities uniting various tribes; at present all these ethnic components of Central Asia have formed nations. In the various stages of their formation, which at times took place in regions quite distant from each other, the indicated ethnic components included quite different human races. In other words, along with the changes in ethnic composition, there also occurred changes in the racial composition of the population.

The history of the emergence of national unions in Central Asia from ancient clan groups, tribes and peoples, that is, from various ethnic components, is the task of ethnographers and historians. The history of the formation of one national language on a given, definite territory is the task of linguists. However, the foremost task facing Soviet anthropologists is the study of the present racial composition of the population of the Soviet Republics of Central Asia, and also the study of palaeoanthropological data, i.e., bones obtained from chronologically dated and, where possible, ethnically determined, ancient interments. By comparing the present racial composition of the population with palaeoanthropological data, one establishes the history of the colonization of the territories by various races and, finally, the history of the formation of the Soviet Socialist nations of Central Asia from several different races.

2. Significance of the Geographic Distribution of Races in
the Past and Present for the Solution of Some
Important Problems of Ethnogenesis

Of cardinal significance for the solution of ethnogenetic problems is the fact that some races of Central Asia are autochthonous --formed on the territory of Central Asia--while others immigrated later from other areas. According to an evident prevalence of the indigenous ancient racial type in some cases, or of races which immigrated later in others, we are able to determine which basic mass of the population composes a given nation, nationality or tribe, i.e., the indigenous or the immigrants and, if the latter, from what countries. Hence the importance of the study of the geographic distribution of races in ancient and modern times.

The population of Central Asia is by no means isolated. Historically, it was formed as a part of the population of the entire vast land mass of Eurasia. From the anthropogeographical point of view (taking Anthropogeography in this case in a narrow, specifically anthropological sense, meaning original areas or centers of distribution of the races of mankind), the territory occupied by the Soviet Republics of Central Asia is a broad border zone located between the original areas of two basic Great Races of the Eurasian continent: the Europeoid and the Mongoloid. The original areas of the Mongoloid Race were mainly the countries which lie to the north and east of Central Asia; those of the Europeoid Race, to the south and west of Central Asia.

These two great races, from the earliest times, sent their representatives to Central Asia either in the form of entire tribes and peoples or fragments of various tribes and peoples whose initial cores had been formed historically in the centers of distribution of these races, and who were, therefore, included in the latter's racial composition. Meanwhile, the boundaries of the areas inhabited by various human races were changing in the course of time. At present, Central Asia in particular appears as a broad border zone between the areas of the Mongoloid and Europeoid races, and as the region of their most intensive intermixing. However, in ancient times --apparently up to the second century B.C. --the zone of direct contact and mixing of Europeoids and Mongoloids was located far east of Central Asia, within the bounds of the Sayan-Altai highlands. Later we shall more than once dwell on this fact, which is of particular significance in the whole problem of the ethnogenesis of the nations of Central Asia.

The vast extent of the areas inhabited by Europeoids and Mongoloids must also be taken into account. In this connection, it suffices to recall that the Europeoid Race populated not only all of Europe from Great Britain and Scandinavia to the Urals and the Caucasus ("Caucasian race" is one of the obsolete synonyms of the Great Europeoid Race) but also all of the northern Mediterranean part of Africa, and a considerable part of southern Asia down to northern India.

The Great Mongoloid Race populated the greater part of the continent of Asia, from the shores of the Arctic Ocean to Indo-China, and to a considerable degree the islands of the Japanese Archipelago, the Philippine Islands, and the Malay Archipelago.

Spreading over such vast territories, from the Arctic to the tropics, various groups of Mongoloids and Europeoids came to live in different environments and, for a long time, in relative isolation. As a result, the two basic great races of Eurasia, in turn, differentiated during millennia into local types covering considerably smaller areas and differing from each other by a smaller number of characters, i.e., into so-called small races or, as they are frequently called by Soviet

anthropologists, "races of the second order."

Therefore, a definite geographic area resulting from prolonged isolation on a given territory constitutes, in addition to the presence of a specific complex of inheritable morphological traits, a specific character of a human race.

A complex of distinguishing morphological traits, which evolved during a long period by inheritance, and the presence of a definite area or geographic center constitutes, in essence, our concept of human races.

Anthropologists do not consider separate morphological types (for example, constitutional types of body structure) as racial types if they are not connected with definite centers of distribution where these types appear of course not in absolute purity (for in view of the intensive mingling of the present-day populations of the world, such cases do not exist) but most clearly expressed and most frequently encountered. Hence, the natural tendency of anthropologists is to use as a designation of human races geographical rather than morphological and, still less, ethnic or linguistic terminology. According to an apt phrase of Salomon Reinach, ethnic and linguistic designations are a "veritable plague for Anthropology." The disarray in terminology leads occasionally to a confusion of such distinct categories as race (a biological category), tribe or nation (an ethnic category) and language (a linguistic category). Such confusion is fraught with consequences which cast doubt upon the scientific significance of the whole concept, including the attempts at constructing pseudo-scientific "theories" of racism. It is sufficient to recall in this regard the notorious "Aryan race" which, as a matter of fact, does not exist in nature.

For this reason, we are using for the designation of human races, which we have identified in the rather mixed population of Central Asia, geographical terms, which indicate the centers of distribution of these races, regardless of the linguistic, tribal or national affinities of the population of a given territory.

As each of the two basic Great Races of Eurasia, the Mongoloid and the Europeoid, had long ago become differentiated into a number of smaller races, Central Asia was settled not by two but actually by several Mongoloid and Europeoid races. The latter moved into Central Asia principally from the south and southwest, crossing Anterior Asia and the Iranian countries.² The Mongoloid races migrated from the north and east, crossing the expanse of the northern steppe zone of Central Asia which was called, in ancient times, the Dasht-i-Kipchak.

We assume, on the basis of anthropological investigations, that at least two groups of Europeoids moved into Central Asia from the south and southwest, and likewise not less than two groups of Mongoloids from the north and east.

Furthermore, these immigrants did not find Central Asia uninhabited. On the contrary, they found here a relatively dense population, partly settled, partly nomadic, of various Iranian-speaking tribes whose existence has been firmly established from existing sources. Anthropological data have revealed that this ancient indigenous population was related, in any event, to the two Europeoid races which still predominate here.

One of the most important questions for the solution of the problem of the Ethnogenesis of the peoples of Central Asia is the length of time that the races which now live there have been in existence and, in this connection, to what extent can we use, as a primary source, their geographical distribution in the past for the elucidation of the history of their settling in Central Asia.

3. Problem of the First Appearance of the Three Basic Great Races of Contemporary Man. Comparison of Anthropological and Geological Data.

The entire chronology of fossil man and the time of the emergence of the great races are dated in the last stage of the history of our planet, the Pleistocene or

Quaternary Ice Age with its subdivision into four glacial and three interglacial periods.

There are two schools of thought among geologists. One of them considers that there was one "great glaciation," the other that there were several glaciations followed by intermittent interglacial epochs. The first school is called Monoglaciation, the second Polyglaciation. The difference of opinion between the two schools of thought is far from settled, thus accounting for considerable difficulties in the chronological dating of fossil human bones. We, like the majority of Soviet anthropologists and archaeologists, accept the theory of Polyglaciation because it is most consistent with the finds of human fossils in temperate regions, in some cases in combination with Arctic fauna (Neanderthals); in others with warm climate fauna (*Homo heidelbergensis*). According to the theory of Polyglaciation, the climate became much more severe during the glacial periods than that which now prevails in the Temperate Zone; during interglacial periods the climate was considerably warmer. Flora and fauna changed correspondingly.

During the glacial periods, the tundra, widespread on the plains of the Temperate Zone belt, was inhabited by contemporary or extinct Arctic fauna (reindeer, mammoth, woolly rhinoceros, musk ox, glutton [*Gulo gulo*] and lemming) and by animals descending from the highlands onto the plains (mountain goat, Alpine partridge and marmot). Meadows and woods, expanding during the interglacial periods, were inhabited by animals coming partly from temperate zones, partly from torrid regions of Asia and Africa (elephant, rhinoceros, hippopotamus, hyaena, lion and tiger).

The consecutive glaciations received their designations from the tributaries of the Upper Danube in the Alps where their traces may easily be found: I, the earliest, Günz; II, Mindel; III, Riss; and the last, IV, Würm. Correspondingly, the interglacial periods are indicated not by Roman but by Arabic numerals: 1, Günz-Mindel; 2, Mindel-Riss; and 3, Riss-Würm. This furnishes some basis for a relative chronology of the entire Quaternary Period and for a corresponding dating of human fossils. Thus, parts of human skeletons found in Günz, Günz-Mindel or Mindel deposits are older than those found in Riss, Riss-Würm or Würm deposits. However, even this relative chronology encounters considerable difficulty and provokes debate among different investigators. For example, some anthropologists and geologists assign the Neanderthals to the Würm (IV), others to the Riss (III) glaciation. We encounter even greater difficulties and contradictory opinions on the question of absolute chronology, namely, the duration of given glacial and interglacial periods in terms of years.

From the extensive and very contradictory literature on this question, one example will suffice. In Soviet Geology and Anthropology, it is accepted that the Quaternary lasted about one million years. However, Henry Fairfield Osborn, well-known American palaeontologist, estimated the duration of the Quaternary at 500,000 years. Correspondingly, the duration of the individual subdivisions, among which the second was the longest, is reduced by half.

As mentioned before, Eurasia was the original center of the distribution of the basic Great Races, the Europeoid and Mongoloid. The third Great Race, the Negroid, settled Africa south of the Sahara, Australia and Melanesia. All three great races, which had eventually become differentiated into a number of smaller races or races of the second order, belong undoubtedly to a single zoological species. The great races were originally represented by types with common, generalized traits which were specific for all Europeoids, or all Mongoloids or all Negroids.

These oldest ancestors of contemporary great races are called Proto-Europeoids, Proto-Mongoloids and Proto-Negroids. The time of their formation coincided with the epoch when Man in his present-day form evolved from the Neanderthaloid type which preceded it everywhere in the Old World. In other words, those ancestors are

as ancient as present-day Man himself. The modern small races, which became differentiated from the three basic racial trunks of humanity, appeared considerably later. As a rule, human fossilized remains are associated with artifacts of the Palaeolithic, Neolithic, Bronze or Iron Ages. Archaeology enables us to date the emergence of the modern species of man, and likewise his differentiation into basic racial stems, to the Upper Palaeolithic. In Europe the bearers of the Upper Palaeolithic Aurignacian and Magdalenian cultures already belonged to the present racial types and were represented by the Negroid Race of Grimaldi and the Europeoid Race of Crô-Magnon.

Within the scheme of geological time, the appearance of these races coincided, according to Osborn, with the end of the Würm Glaciation; this may have been 25,000-30,000 years ago [39, pp. 219-20]. In the opinion of the Soviet Archaeologist P. P. Efimenko, we must consider the above-mentioned Palaeolithic cultures and, consequently, their bearers, the Grimaldi and Crô-Magnon races, to be considerably older, since this author assigns their appearance not to the end of the Würm but to the end of the Riss Glaciation [65, pp. 428-35 and table V].

Such great discrepancies are caused by the absence of a generally accepted precise methodology for determining the duration of glacial and interglacial periods in terms of years. Furthermore, as mentioned above, even the relative chronology evokes sharp disagreements as various investigators assign human fossils to different phases of the Pleistocene.

However, regardless of all contradictions of published data, the undisputed fact is that two of the three basic Great Races, the Europeoid and the Negroid, have existed tens of thousands of years.

The Proto-Europeoid Crô-Magnon race received its name from the location of one of the first finds of this racial type in 1868 in Crô-Magnon Cave near Les Eyzies, Dordogne. There is no doubt that Crô-Magnon man belonged to the present-day human species—to be exact, to the Great Europeoid Race. Subsequent investigations have shown that variants of the Crô-Magnon race were widely distributed in Eurasia, from Western Europe up to the Sayan-Altai highlands, and that, in every instance, they preceded the appearance of modern Europeoid races.

The oldest Crô-Magnon remains were associated with Upper Palaeolithic implements—the so-called Aurignacian culture.

Although the appearance of Proto-Negroids occurred earlier, this type belongs, nevertheless, to an epoch closely related in time. This is evidenced by the generally known Negroid skeletons of an old woman and a youth, which were found in the grottoes of Grimaldi at Menton on the French-Italian border. Associated with these remains were Aurignacian implements and ornaments of the Upper Palaeolithic. That Grimaldi Negroids belonged to a present-day human species, namely the Great Negroid Race, is also beyond doubt. In the same grottoes of Grimaldi, there were also found typical Crô-Magnons with typologically similar Aurignacian artifacts. In other words, the Grimaldi Negroids and the Europeoid Crô-Magnons lived during the same epoch. The question of how and when the Proto-Negroids, whose ancestral home in all likelihood was in Africa, came to dwell in southern France remains unanswered. The great antiquity of the Negroids is indicated not only by the two skeletons from Grimaldi but also by a Negroid cranium belonging to the Upper Palaeolithic found later in Asseliar in the southern part of the Sahara [13, p. 311].

The problem of the time and original area of the appearance of the third race, the Mongoloid, has been developed in many studies by Soviet anthropologists. In foreign writings, since the time of the investigations made by Testut (toward the end of the 1880's), it was customary to regard the "Chancelade race," which received its name from the location of a skeleton found in a rock shelter in the District of Chancelade in France [75, p. 298], as the oldest member of the Mongoloid

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Race. Geologically, this find is attributed to the end of the glacial period, and in archaeological chronology to the Magdalenian--later than the Aurignacian. According to Testut, the Chancelade type reveals a great similarity to that of the modern Eskimo. It was also pointed out that during the nineteenth century the Eskimo culture stood on the same level as the Magdalenian, which was widespread in Western Europe at the close of the glacial period. On this basis, broad theories were established regarding Eskimo migrations after the retreating glaciers in the Arctic regions of Eurasia, America and Greenland.

However, the relating of the Chancelade type to that of Eskimos proved to be erroneous. Mongoloid characters are not present in the Chancelade cranium. On the other hand, the Eskimos are undoubtedly related to the Great Mongoloid Race and represent merely a particular variant. The traditional viewpoint of relating the Chancelade skeleton to the Eskimo type was criticized in foreign literature. Keith correctly classified the Chancelade skull as typically Europeoid [81, p. 86]. For the rest, the similarity of the material culture of the Eskimos with the artifacts of the Magdaleniens at the end of the Old Stone Age in Western Europe may have resulted from convergent evolution. It is, therefore, fallacious to consider the Chancelade type as Mongoloid. Neither is there any substance in the broad theories concerning the westward migrations of the Mongoloids following the edge of retreating glaciers, or a very early penetration of Mongoloids from east to west (according to Breuil) during the Pleistocene Period.

Debets proved most convincingly in his important monograph [13] based upon most extensive factual materials that the Mongoloid Race was formed in eastern Eurasia in Transbaikalia, the Amur region, Manchuria, Mongolia and North China.

Opinions based on indirect evidence seem to indicate that the Mongoloid Race emerged during the end of the second half of the Upper Pleistocene as did the Europeoid and Negroid Races. Prolonged isolation in a particular territory was one of the most important factors in the formation of human races, with their specific complexes of differentiating traits. The processes of extensive large-scale migrations from their original areas began considerably later.

Roginskii long ago expressed the opinion that the geographic barrier separating the Mongoloids and Europeoids could have been the processes of glaciation which divided the West Siberian plains from eastern Eurasia. Unfortunately, we do not yet possess the information which would make it possible to date accurately the ancient remains of Mongoloids in terms of archaeological or geological periods. Furthermore, it is still difficult to correlate the Palaeolithic cultures of Siberia with those of Europe. Apparently, the Mongoloid element had already appeared west of Lake Baikal during the Upper Palaeolithic. This is indicated by a fragment of frontal bone with parts of nasal bones which were found during an excursion in Siberia of the Seventeenth International Geological Congress by the French geologist and anthropologist Jacques Fromaget at Afontova Gora³ near Krasnoyarsk. Fromaget's determination of this fragment as typically Mongoloid was later fully confirmed by measurements made by Debets [13, pp. 42-43]. The flint implements from the Afontova site were at first attributed to the Lower Mousterian culture, but later finds of flint and bone artifacts showed their similarity with Magdalenian implements from Western Europe [13, pp. 40-41]. Efimenko also considered the Afontova site as typically Magdalenian [65, pp. 512-17]. The probability of an introduction of this culture to the West Siberian plains from the east is indicated by the great similarity of objects from the Afontova site and from all the other Siberian Palaeolithic sites with those of Mongolia and China [13, p. 41].

On the other hand, the oldest human remains found on the other side of Lake Baikal, in the eastern part of Asia--the most probable area of Mongoloid origin--are either, as yet, unauthenticated or else very meager.

Weidenreich, one of the investigators of *Sinanthropus*, observed a number of traits which, in his opinion, are Mongoloid, and which were supposedly characteristic even for the *Sinanthropus* found in China, in the Pleistocene deposits of Choukoutien near Peking [13, p. 311]. However, Roginskii criticized Weidenreich's arguments stating that the traits of *Sinanthropus* cited by him are by no means specific for Mongoloids, but also occur in other human races [43, pp. 69-70].

It must be noted that *Sinanthropus* represents one of the oldest stages in human evolution, preceding by tens of thousands of years the appearance of modern species of man. Transitional forms, on the other hand, are indubitable only in the later Neanderthaloid stage. Of great significance is the fact that the present-day species of man with the complex of Mongoloid characters was discovered not in the Lower or Middle Pleistocene deposits but in the upper levels of Choukoutien. However meager these facts agree fully with the hypothesis that the Proto-Mongoloid race was formed east of Lake Baikal--in Transbaikalia, Manchuria, Mongolia and China--in the same epoch, during the second half or in the final phase of the glacial period.

The question of the time and place of the formation of the Proto-Mongoloid race, which later became differentiated into Mongoloid races of the second order, is of primary significance in the solution of a number of ethnogenetic problems of the nations of Central Asia. The above-cited hypothesis agrees perfectly with the far more numerous and authenticated facts of further migrations of Mongoloids to the west of Lake Baikal, within the limits of the Sayan-Altai highlands, and from there to the wide northern steppe belt of Central Asia.

Thus, it may be considered as sufficiently firmly established that the three basic stems of the Great Races of modern mankind--the Europeoid, Mongoloid and Negroid--were formed, in any event, toward the end, or more probably during the second half, of the Pleistocene. In spite of the relativity of "absolute chronology," we have every reason to accept as fact that their age may be counted in tens of thousands of years. Their appearance occurred much earlier than the epoch during which tribes and peoples, not to speak of nations, began to form.

4. Problem of the Time of the Appearance of Mongoloid and Europeoid Races of the Second Order in Central Asia. Comparison of Anthropological Data with those of History and Archaeology.

As previously mentioned, Central Asia was settled not by two but by several Mongoloid and Europeoid races. These small races, or races of the second order, which became differentiated from the two basic great races of Eurasia are, although to a lesser degree, of sufficiently "ancient age" to justify the utilization of their past and present geographic distribution for the history of the settling of Central Asia by various Mongoloid and Europeoid races of the second order.

Investigations by Soviet archaeologists and anthropologists have shown that the most ancient remains of the brachycephalic Europeoid Race in the Central Asiatic Interfluvial Region, ⁴ the type which still predominates in Tadzhikistan and Uzbekistan, is attributed to the transition of the third to the second millennium B. C. The second Europeoid race, the dolichocephalic Transcaspian, now predominant in Turkmenistan, dates from about the same period. Both of these autochthonous races developed in Central Asia. Still older is the so-called Anterior Asia or Armenoid race, which migrated from Anterior Asia, where its center of distribution still lies in the northern part; its vestiges may be traced back to the transition between the fifth and fourth millennium B. C.

The Mongoloid races of the second order, on the other hand, cannot be differentiated on the basis of Central Asiatic data. The centers of their distribution lie to

the north and east of Central Asia, in Siberia and the Far East. Nevertheless, sufficiently definite data are available on the time of Mongoloid penetration into Central Asia, although we cannot always determine to which Mongoloid race of the second order they belong.

During the second century B.C., the Mongoloids appeared for the first time in the wide steppe belt north of the Syr Darya, called the Dasht-i-Kipchak in the Middle Ages. Subsequently, the Europeoid population which preceded them became more and more Mongolized, according to the types of the successive waves of Mongoloids coming from the east. As a result, the ancient Europeoid population became Mongolized to the extent that its traits became predominantly Mongoloid.

The present-day inhabitants of the Dasht-i-Kipchak, the Kazakhs and the Kirghiz, related to the Mongoloids rather than to the Europeoids, are known as the South Siberian Mongoloid race, of which they are the most typical representatives. This race, mixed in its origin as are many other races, but with a distinctly Mongoloid component prevailing, began to form about 2,000 years ago.

The Mongoloid element, which formed on the Dasht-i-Kipchak, served as a kind of reservoir from which proceeded the Mongolization of the ancient Europeoid population of the countries south of the Syr Darya.

We shall discuss later, in greater detail, this problem which is of the greatest importance for the ethnogenesis of the Uzbeks, Turkomans and Kara-Kalpaks.

The foregoing discussion clarifies the very close relationship between Anthropology and the basic historical disciplines of the Humanities--Archaeology and History.

The relating of skeletons or cranial fragments to a specific racial type is determined, of course, wholly by the physical anthropologist. However, the chronological dating, precise or tentative, may be given only by historical sources--archaeological or written.

As we have seen, the most ancient human remains, which are related to the various stages of hominid evolution and to the epochs of the formation of the great human races, are dated on the basis of geological periodization.

Nevertheless, for the chronology of the more ancient stages of human history, archaeological data play an important role. Human fossils as represented by the Neanderthals, who formed the basic element of the entire population of Eurasia during the Riss (III) Glaciation, were usually accompanied by typologically Mousterian stone implements. Stone and bone implements are often well preserved in the ground; the far more fragile human skeletons much less frequently. For this reason, Mousterian sites widely found in Eurasia are usually indicated only by stone implements. Their presence, however, is sufficient proof that a given site was inhabited by humans of the Neanderthal anthropological type. In addition, the sites yielding Mousterian implements, as a rule, date geologically from the same Riss (III) Glaciation during which the Neanderthals formed the basic population of Eurasia. Thus, Mousterian and Neanderthal are synonymous. On the other hand, remains of *Homo sapiens* are generally associated with stone and bone implements of later cultures of the Old Stone Age--the Aurignacian, Solutrean and Magdalenian. Therefore, we have sufficient reason to assume that wherever Upper Palaeolithic sites are found, the inhabitants were men of the present-day types.

Finally, the human remains obtained from graves of later epochs--the Iron, Bronze and Stone Ages--are always dated on the basis of variegated archaeological inventories--pottery and bronze or iron implements and weapons. However, it should be mentioned that chronological dating based on archaeological material alone is frequently difficult. For this reason, the discrepancies in the dating of some finds are often considerable, and may vary from several hundreds to

thousands of years. For example, Pumpelly, the first excavator of Anau near Ashkhabad, attributed the lower strata in which he found the most valuable palaeo-anthropological materials to the sixth-fifth millennia B.C.; this would have indicated the great antiquity of the local Europeoid dolichocephalic race. However, recent investigations by Masson revealed that those strata are not older than the III-II millennia B.C. Pumpelly's error was corrected by Masson on the basis of comprehensive comparative materials from later finds and more advanced excavation technique. However, discrepancies in dating ancient graves are not infrequent among Soviet archaeologists. For this reason, written sources are of especial importance.

On the basis of critically evaluated sources, historians report the time of the appearance in Central Asia of one or another people and frequently indicate its country of origin. Then, knowing the racial type corresponding to the center of distribution to which that country of origin belonged at that time, physical anthropologists are in a position to determine which new racial type was introduced by the immigrating nation.

Nevertheless, the question of which basic, most numerous, stock of the population became part of one or the other modern nation, the local ancient one or the later immigrants, can only be answered by an analysis of the racial composition of that nation.

As a rule, sources do not contain information on the numerical strength of local tribes or of the immigrating tribes. At the most, the only definite data obtainable refer to the number of warriors in the army of a conqueror. For example, there are reports that the army of Alexander the Great numbered no more than 30,000 Hellenes and that of Darius no more than 40,000 Persians. Genghis [Jenghis] Khan had 200,000 soldiers in his army, but Mongolians were in the minority, all others belonged to various Turki tribes.

Meanwhile, the conquering nation, even if insignificant in number, can hold sway for a long time, subdue a far more numerous local population, and even impose its name on this local population. For example, the Uzbek nomads, who occupied modern Uzbekistan during the sixteenth century, gave their name to the entire population already inhabiting the country.

In the anthropological composition of peoples and nations consisting of various human races, the clearly predominating complex of racial characters will always be that of the basic, most numerous stock.

Therefore, the analysis of the racial composition of modern nations appears to be one of the most dependable and, occasionally, even the only source for determining which is the basic and by far the largest stock in a given nation, the autochthonous or the immigrant.

In other words, only an analysis of the racial composition of the population will provide the answer to the question whether to consider the basic stock of a given people to be "descendants" of the ancient local tribes or of new tribes which immigrated later. At times, this question becomes highly controversial.

It is sufficient to cite the long-held, naive viewpoint which considered the present Uzbeks as direct "descendants" of the Uzbek conquerors of the sixteenth century and the Turkomans as the "descendants" of the Turki-Seljuks who occupied Turkmenistan during the eleventh century.

Meanwhile, an analysis of the racial composition of the present population showed that the local ancient Europeoid races of Central Asia, which composed the old local tribes, are undoubtedly the dominant component of both Uzbeks and Turkomans. The tribes that came later to Uzbekistan and Turkmenistan only added one or another kind of admixture of Mongoloid traits to the ancient indigenous population.

On the contrary, the basic stock of the Kirghiz and Kazakhs consists of Mongoloid tribes, which came from the east and assimilated, in an anthropological sense,

the ancient Europeoid population of the Dasht-i-Kipchak which preceded it.

In addition to aiding in the chronological dating of skeletons or their parts obtained from ancient graves, and giving information on the time of migration of certain nations, History and Archaeology also furnish anthropologists with valuable material for the determination of the racial types of ancient tribes.

The few palaeoanthropological data from Central Asia frequently serve merely for purposes of orientation. Historical reports, western as well as eastern, which contain information on the types of a population, thus acquire the greater importance. Such, for instance, are the reports of the Chinese Annals on the types of population from Davan' (Chinese Ta Yuan),⁵ now Ferghana, to An'si (Chinese An-Hsi), later Parthia, and on the Wusuns⁶ [60, pp. 61, 65]; the reports of Ammianus Marcellinus [circa 330-400] and of Jordanes [sixth century] on the type of Huns [70, p. 78]; those of Procopius [died 562?] on the Ephthalites or "White Huns" [61, p. 11]; of Hardizi (Russ. Gardizi) on the type of contemporary Kirghiz when they lived on the Yenissei River [58, p. 108]; of Al-Mukkadisi⁷ on some peculiarities of the cranial structure of the contemporary people of Khwarizm⁸ and of the Ghuzes⁹—the ancestors of the Turkomans [66, 68, p. 186]; of Hippocrates on the congenital and artificial dolichocephaly of the Scythians [62, pp. 294, 297]; of the Arab historian Al 'Utbi on the type of the Turki who besieged Balkh in the year 1008 [13, p. 284].

Ancient chroniclers, historians and geographers, not versed in Anthropology, recorded observations of those morphological traits which caught their attention as being different from those to which they were accustomed in their own countries. All reports of this nature, although scarce and fragmentary, are undoubtedly valuable for the study of the racial types of ancient tribes.

In some cases we are able to judge the anthropological type of ancient tribes only on the basis of historical accounts. Such, for example, are the reports on the so-called "Dinlin" or "fair-haired [blond] race," which at one time inhabited a vast territory from the Upper Yenissei to Issyk Kul. Under this name, tribes which were mentioned in the Chinese Annals of the first centuries of our Era, as well as in Persian reports of the eleventh century, have been known for a century in historical and anthropological literature. These sources, written in such different epochs and in countries so far removed from each other, report such physical characters of these tribes that there is no doubt of their belonging to the Europeoid Race with light eyes and fair hair. This race disappeared long ago both in Central Asia and in the Sayan-Altai highlands. It was assimilated by subsequent strata of Mongoloid brunets. That it belonged to the Europeoid type was later fully confirmed by palaeoanthropological data obtained by Soviet anthropologists. However, the knowledge that this race possessed light eyes and fair hair, i.e., that it belonged to the race of Europeoid blonds, we derive only from historical reports. The fact of its existence is of essential significance in the problems of the ethnogenesis of Central Asiatic peoples. On the other hand, this fact was exploited and distorted by German racists for the purpose of establishing the fantastic "theory" of the penetration of Central Asia by the notorious "Aryan race" which was alleged to have "implanted" the ancient culture of its peoples. A monograph devoted to this "theory" by Hans Günther bore the characteristic title, "The Aryan race among the Indo-Germans of Asia."

Evidently the Mongoloid brunets, the Chinese, were immediately struck by the Europeoid traits of some Central Asiatic tribes, which differed obviously from types of the population of China. However, Ammianus Marcellinus, the Roman historian of the Ostrogoths who lived in the Crimea, observed at once the Mongoloid traits, unusual for Europeans, among the Huns who had invaded Europe during the fourth century. This Mongoloid type noted in the historical sources has now been fully confirmed by palaeoanthropological materials obtained from burials of Huns in Hungary.

Sometimes historical reports furnish only oblique clues to some characteristic anthropological trait of a people. Such, for example, are the reports of Arab geographers of the tenth century which leave no doubt that in the tenth century the ancestors of the Turkomans, the Ghuzes, were dolichocephalic, a pronounced character of modern Turkomans. About thirty years ago, and without any palaeoanthropological data at our disposal, we expressed, on the basis of these reports, the hypothesis that the Turkomans and their ancestors, the Ghuzes, were descendants of the Scythian Sarmatian tribes of Transcaspia. This hypothesis subsequently found full confirmation in the palaeoanthropological data collected by Masson's archaeological expeditions in Turkmenia.

On the other hand, archaeological finds themselves, comprising figures in relief, statuettes, and portraits on coins, often portray the racial types of various ancient tribes in an excellent manner. For example, the exceedingly rich archaeological and numismatic materials obtained in Anterior Asia portray clearly the racial types of ancient nationalities in Mesopotamia and Asia Minor, i.e., the Hittites, Sumerians, Assyrians, Babylonians and Persians. This material is just as important for a racial diagnosis of ancient nations as skeletal remains obtained from ancient graves.

The systematic anthropological study of the sufficiently abundant iconographic materials collected in Central Asia by archaeological expeditions under the leadership of Tolstov, Masson, Diakonov, Iakubovskii, Shishkin and Voronets has not yet begun. Their investigations form a priority task facing the anthropologists.

However, in contradistinction to the iconographic materials obtained in Assyria and Babylonia and those of the Hittite and Persian Empires, racial traits are not always clearly delineated in similar data from Central Asia. We frequently encounter considerable difficulties in determining race [literally, difficulties in race diagnosis] in terms of the two Great Races, not to speak of races of the second order. Therefore, it is not only legitimate but actually necessary to examine as thoroughly as possible all pertinent historical reports which mention the time of the appearance in Central Asia of a given tribe and the country from which it had come.

5. On the Tribal Composition of the Population. Comparison of Anthropological and Ethnographic Data.

To the extent that a given national union includes in its composition not only various human races but also various ethnic components, an ethnic analysis revealing the fragments of ancient clan and tribal groups is also one of the methods used for the solution of complex problems of Ethnogenesis.

One of the basic tasks confronting Soviet ethnographers is the analysis of the ethnic composition of modern peoples. Yet a direct comparison of anthropological¹⁰ data with those obtained by ethnographers sometimes reveals a diversified and, at first glance, contradictory picture. In some cases, various national unions included in their composition different tribes and clans as well as different human races. In other words, they differ in their anthropological as well as their ethnic composition. In other cases, different nations may have included in their composition splinters of the same tribes and clans, but different human races. These would be ethnically homogeneous but anthropologically diverse. In a third instance, different nations included essentially the same races, but quite different tribes and clans. These nations would be anthropologically homogeneous, but diverse in their ethnic composition.

Such a disparity of anthropological and ethnic components is also encountered in Soviet Central Asia.

Hence the necessity of strict differentiation between the ethnic origin of a people and its anthropological origin.

Investigations by ethnographers, who must, as a necessary condition, utilize historical sources, result in a history of the coalescence of nations out of various clans, tribes, peoples--that is, solely from diverse ethnic components--but emphatically not from anthropological components. However, as noted above, the order of successive settlement of a given territory by various tribes is also very important for anthropologists because the tribes moved from the centers of distribution of different human races, bringing different racial components into Central Asia. As long as we lacked skeletal material obtained from chronologically dated and ethnically determined ancient interments in Central Asia, we frequently had to follow this lead, which proved effective in every instance.

Let us cite one example. Chinese and Moslem sources testify that the most ancient population of the northern steppe zone of Central Asia was of a Europeoid racial type. Superimposed upon this ancient Europeoid population came uninterrupted stratifications of Turki-speaking and Mongolic-speaking tribes, which moved into the northern steppe belt from the east, from the original center of distribution of the Great Mongoloid Race. This process could have begun, in any case, from the second century B.C., that is, during the epoch of Hunnish expansion. After the Huns, this territory was transversed by the Jou Jan¹¹ (Jwen-Jwen) of Chinese sources, known in ancient Russian Annals as the Obri, and in Western sources as the Avars. Shortly thereafter, this territory became settled by Turki tribes during the first Khanate (sixth century) moving in mainly from Mongolia. Later, the northern steppe zone of Central Asia was occupied by Turki-Karluks; then, in the eleventh century, by the Kipchaks--the Polovtsi of Russian Annals; and finally, in the thirteenth century, by Mongolian and Turki tribes of the epoch of Genghis Khan's conquests. All these newcomers migrated from the east, from the very center of the Mongoloid Race, probably mainly through the famous Dzungarian [Zungarian or Sungarian] Gate. The successive stratifications produced by the inflow of all these tribes during the course of many centuries resulted in the emergence of an anthropological stratum of population with an obviously dominant Mongoloid component, the stratum now known as the South Siberian race, which enters into the composition of the present-day Kazakhs and Kirghiz. The Kazakhs and Kirghiz are very similar in their racial composition. To the extent that they were formed from the same races, in about equal proportions, we may state that they have a common anthropological origin.

However, in spite of this common origin, the ethnic and territorial and chronological origin of the Kazakhs and Kirghiz actually differs. The Kazakhs and Kirghiz included in their composition quite heterogeneous ethnic components. It is true that among them one encounters homonymous tribal designations, such as the Kipchak, Naiman, Argyn, and others. Such similarity is understandable because the Kazakhs wandered over a huge territory from the Tien Shan to the Urals and from the Altai to the lower course of the Amu Darya and the northern shore of the Caspian Sea. Across this vast territory spread all the Turki tribes descending from the Altai, as well as other Turki and Mongol tribes who dwelt originally in Mongolia. In regard to differences in the ethnic composition of Kazakhs and Kirghiz, an adequate explanation may be derived from the fact that the original cores of these nations were being formed in different epochs and in widely separated territories. The initial core of the Kazakh people was formed during the fourteenth-fifteenth centuries within the limits of the Dasht-i-Kipchak of the Middle Ages, on the steppes near the Aral Sea and beside the Caspian Sea. The initial core of the Kirghiz was already formed between the third-second centuries B.C. in the Upper Yenissei region [59, p. 7].

On the other hand, the Kazakhs and Uzbeks reveal unmistakable differences in their anthropological origin, in spite of the common territorial, ethnic and

chronological factors of their origin. The initial, original cores of the Kazakhs and Uzbeks were being formed on the same extensive territory, which cannot be limited to the steppes of the Volga, Caspian Sea and Aral regions, but must also be considered to include other areas of the very extensive ulus of Juchi.¹² Furthermore, the Kazakh and Uzbek associations both originated during the fourteenth-fifteenth centuries.

Originally, the Kazakhs and Uzbeks formed one single nation on the Dasht-i-Kipchak steppes [69]. It is natural, therefore, that a great number of the same tribes entered into their composition, such as, for instance, splinters of the Kipchak, Kangli, Naiman, Kungrad (Kungrat), Dzhalaïr, Kereit, Uishun¹³ (Wusun) tribes and others. Anthropometric analyses, however, revealed that in spite of these common factors--territorial, chronological and even, originally, ethnic--of their origin, obviously different stocks entered into the composition of the Kazakhs and the Uzbeks.

A part of the Turki tribes, who wandered across the Dasht-i-Kipchak, and who in the fourteenth century received the name of Uzbeks, remained for the following centuries on the same steppes north of the Syr Darya. These nomadic tribes, which remained in their original grazing lands, became known in the fifteenth century as the Uzbek-Kazakhs, and later merely as the Kazakhs. Into their composition entered the mass of the nomadic population of the Dasht-i-Kipchak, which by that time had become Mongolized as to physical type.

Another part of the same Dasht-i-Kipchak Turki tribes, who retained the common designation of Uzbeks, occupied, at the beginning of the sixteenth century, the plains area between the Central Asiatic Interfluvial Region, now Uzbekistan. In this "new homeland" the Uzbeks found a densely settled, agricultural and urban population, represented by the local autochthonous Europeoid race of the Central Asiatic Interfluvial Region. Later this Europeoid population became part of the unified Uzbek nation.¹⁴ As a result, the racial composition of the Uzbeks, who migrated onto the plains, changed radically. At this time the Europeoid component of the Central Asiatic Interfluvial Region clearly predominates, rather than the Dasht-i-Kipchak Mongoloid component.

The Uzbeks who, in the sixteenth century, occupied modern Uzbekistan, are merely one of the numerous tribal groups which compose the present-day unified Uzbek nation.

The practice of naming an entire people after any one of the largest tribal groups making up its composition is very widespread. Even now we speak of Britons, Britain and Great Britain, although the Brythons represent merely one of the Celtic tribes which dominated England from the ninth century B.C. to the fifth century A.D. On the other hand, peoples of this nation are called English or Anglo-Saxons and their country England after the names Angles and Saxons--two of the four German tribes which, in the fifth century, conquered the country ruled by the Brythons.

The Hungarian people call themselves Magyars after the name of a Finno-Ugrian tribe. However, the Hungarian Magyars represent only one of the numerous tribal groups comprising the Hungarian people. It was not until the end of the ninth century that they occupied present-day Hungary. The name of these new conquerors was then transferred to all the preceding multi-tribal population of the country which in ancient times was called Pannonia, and Pannonia itself was called Hungary.

The Bulgarian people and its country Bulgaria received its name from the Bulgars, a Turki tribe believed to be the western branch of the Huns who invaded Europe in the fourth-fifth centuries. These Turki-speaking Bulgarians, who occupied the territory of modern Bulgaria during the seventh century, became assimilated by the Slavic population that preceded them and adopted their language.

The French to this day call the Germans les Allemands, and Germany Allemagne,

after the name of one of the German tribes, the Alemanni. On the other hand, the French call themselves and their country after the name of the West German tribes, the Franks, who raided northern France from the third to the fifth century. During the fifth-sixth centuries, the Franks occupied the central part of the country, and founded the Frankish State during the ninth century.

It follows, then, that the name of a given people does not, by itself, solve ethnogenetic problems. The widely held naive and primitive view that the history, and consequently the ethnogenesis, of the Uzbek people started only from the fifteenth-sixteenth centuries when the nomadic Uzbeks occupied present-day Uzbekistan, is now considered erroneous, as pointed out correctly by Iakubovskii. Actually, the direct descendants of the Uzbeks, as well as the direct descendants of the Brythons, Angles, Hungarians, Bulgars and other tribes who gave their names to the various modern nations, undoubtedly constituted only a minor part of the numerous ethnic groups composing these nations.

The words "ancestors" or "descendants" are used with reference to a chain of generations--their consecutive change. Only an analysis of the racial composition provides a dependable answer to the question of whether the basic, distinctly predominating stock of a given people should be considered as descending from the ancient indigenous population or from later immigrants.

This consideration, however, does not exclude the necessity of taking into account data on the clan and tribal composition of various national associations. In a number of areas in Uzbekistan are still widely remembered the names of those clans and tribes, whose splinters were included in the "initial core" of the Uzbeks going back to the time when the latter were still in the process of formation on the Dasht-i-Kipchak. Judging by the presence of such tribal and clan designations, Uzbek groups which preserved them may be regarded, from the ethnographic viewpoint, as direct descendants of the Dasht-i-Kipchak Uzbeks, whereas groups which do not possess such tribal and clan names may be considered as the local population, partly Turkified in language before the Uzbek conquest of the sixteenth century, and partly Turkized thereafter. Such a viewpoint would be indirectly confirmed if the Uzbeks who preserved the clan and tribal designations were more closely related anthropologically to the Kazakhs--a people very similar to them in ethnic, chronological and territorial origin--than the Uzbeks who do not possess tribal and clan divisions.

In some cases, the Uzbek tribes indeed preserved to a higher degree "anthropological traces" of their Mongoloid Dasht-i-Kipchak origin as compared with the surrounding Uzbek population without tribal division. Such are, for instance, the following tribes: the Kungrad and Yuz¹⁵ (IUz) in the Surkhan Darya Oblast; the Lokay in the Kulyabskaya Oblast of Tadzhikistan; the Barlas in the Hissar Oblast of Tadzhikistan; the Kara-Kitay in the Angren basin, and others.

Nevertheless, in a number of cases, the Uzbeks of certain tribes and clans are no more Mongoloid than other Uzbeks, and sometimes less.

Some Uzbek tribes, which came from the Dasht-i-Kipchak--for example, those examined by us in the Kashka Darya Oblast, the Katagan, Kauchin, Kenegiz, Saray, Mangyt and others--turned out to be less Mongoloid than the Uzbeks of the Tashkent Oblast who have no tribal and clan divisions. Evidently, significant strata of the local Europeoid population in some cases considered themselves as belonging to the Dasht-i-Kipchak tribes which assumed a dominant position.

The significance of Ethnography for the science of races is by no means limited to the determination of the tribal and clan composition of a population. Even such an area, seemingly far removed from the field of Anthropology as that of religious beliefs and related customs and mores of a given people, an area lying wholly within the scope of Ethnography, does also have some significance for racial studies. For example, religion may be a factor in determining the process of mestization

among races. As a rule, races coming into contact by occupying the same territory mix and produce a mestisized population. Depending on the relative size of the local race and the immigrants, they will exhibit predominantly the characteristics of the numerically larger group. However, the intensity of the process of mestization or even its total absence are determined not by biological but by social factors, including, in some cases, religious prejudice. Let us cite one example. In Uzbekistan are two peoples of Semitic origin, who had immigrated from the very center of distribution of the Anterior Asian race. These are the Jews and the Arabs who have been studied by us.

One of the two peoples, the Jews, preserved its original Anterior Asian racial type in all its purity. They are, so to speak, a splinter of the Anterior Asian anthropological stratum, Near East racial element carried by the Jews who migrated to the Central Asiatic Interfluvial Region in the tenth century. In this case, the process of mestization with the local race was excluded by a religious wall which lasted through the centuries as an insuperable barrier. Both Islam and Judaism permitted marriage only among coreligionists. Meanwhile the other Semitic people, the Arabs, who also came to modern Uzbekistan from the same general area, Anterior Asia, preserved their original Anterior Asia type as an exception. Individual characters of this type were, to a considerable degree, "dissolved" in the local population. Examined on the basis of the totality of their characters, the Arabs, as a typically mestisized group, occupy an intermediate position between the Europeoids of Anterior Asia and those of Central Asia, with an inclination toward the Europeoid type of the latter. The Arabs brought to Central Asia the Islamic religion, which was soon adopted by broad strata of the local population. In this case, the religious barrier was absent and the mestization process between Arabs and the local population continued in the course of centuries. Thus, religion and the deeply rooted customs connected with it determined in different ways the racial composition of two Semitic-speaking peoples which emigrated from Anterior Asia to Uzbekistan.

Anthropological data are sufficient to determine the Anterior Asian origin of the Jews of Uzbekistan. The anthropological type points directly to the initial area of origin.

But the Arabs, as well, in spite of their mestization during centuries with the local population, preserve nonetheless "anthropological traces" of their Anterior Asian origin. These "traces" must be taken into account when studying the ethnogenesis of the Central Asiatic Arabs. Some groups of Arabs studied by us still use a living Arabic dialect [134]. Thus "anthropological traces" of Arab origin find confirmation in linguistic data. Of great interest would be "ethnographic traces," if they had been preserved in the material and spiritual culture of our Arabs.

6. The Problem of Correlation between Families. Comparison of Anthropological Data with Linguistic Evidence.

The languages of Central Asia also evolved historically in the territories where nations were formed by various races and tribes. Common language, together with common territory, is one of the most characteristic traits of a nation.

For this reason, the problems of Ethnogenesis cannot be explored without taking into consideration the development of the language of a tribe, nationality or nation. In some cases, the language appears to be the most reliable source for the determination of the origin of a certain tribe. A case in point are the languages of the Gypsies or the Yagnobi (IAgnobi), who live in the secluded Yagnob Darya Gorge of the Upper Zarafshan [Zeravshan] River. It is known that the gypsy language [Romany], together with the languages of Bengal and Hindustan, belong to the so-called

Indo-Aryan languages of India. The language indicates the country whence the Gypsies were migrating to other countries of Eurasia. On the basis of linguistics, the Yagnobi have long been considered a remnant of the ancient Sogdian population of Central Asia. Our anthropological investigations have fully confirmed this viewpoint.

In other cases, however, the language of a given nation changed radically in the course of time. This occurred most frequently as a result of consecutive linguistic stratification, as a result of assimilation of some languages by another.

Of particular significance in the solving of ethnogenetic problems are the correlations of racial types on one side, and of languages of various linguistic families on the other. Race and language, of course, have no causal relation whatsoever. Neither does a race influence a language, nor does a language with its characteristic grammatical structure and basic vocabulary in any way affect eye color, hair structure, skin color, nasal form, etc. This fact is self-evident.

Nevertheless, in the process of their formation, race and language may coincide territorially, and actually have done so in a number of cases. In the course of its formation in a certain territory, a given tribe, the carrier of a certain language, should also have included in its composition that race whose center of distribution, present or past, was the same territory. Language and race could have and not infrequently did in fact coincide. In such cases, the appearance of new language on a given territory coincides with the time when a new racial type appears in that territory. In such cases we are justified in determining, on the basis of anthropological data, the time when a new language emerged in a given territory and, conversely, on the basis of linguistic data, the time when a new racial component made its appearance in the racial composition of a nation. For example, parallelism of the two processes is clearly evident in Central Asia: the Turkization¹⁶ of the ancient local Iranian-speaking population in regard to language; and the Mongolization of the ancient Europeoid type. In other words, in the past, Europeoid races were the bearers of Iranian languages, and the Mongoloid races of Turkic languages. In addition, there also took place in Central Asia a mixing of Semitic and Mongolian languages.

In Central Asia, Mongolian-speaking tribes soon became Turkized, while the immigrating Semitic-speaking peoples adopted partly the local Iranian, partly the Turkic, languages. As a result of these linguistic crosses the "conquering language" in Tadzhikistan became the "descendant" of the ancient local Iranian language, and in Uzbekistan and Turkmenia the language of the Turkic linguistic family was introduced by Turki-speaking tribes which arrived later.

As mentioned before, Mongoloid tribes were migrating into Central Asia from the north and east, while members of the Europeoid Race moved in from the south and west. These newcomers found here a relatively dense ancient population of a Europeoid anthropological type with which they mixed in various degrees.

On the other hand, it is known that during the entire period of recorded history tribes of the Iranian group of the Indo-European linguistic family and of the Semitic one moved into Central Asia from the south and west, while from the north and east came tribes of the Turkic and Mongolian linguistic families. Furthermore, it is known that these immigrating tribes found in Central Asia a settled and nomadic population which spoke local languages, i. e., Chorasmian,¹⁷ Sogdian, Bactrian and Sacan languages. As a result of Masson's brilliant archaeological discoveries, the Parthian language also became known in recent years. The philologists relate all these ancient local languages of Central Asia to the Iranian group.

Comparison of these facts with the original geographic distribution of Europeoid and Mongoloid races shows that in Central Asia and adjoining countries, the original areas of distribution of the Europeoids coincided with territories inhabited by

Iranians and Semites, and areas of distribution of the Mongoloids with territories of the Turkic- and Mongolian-speaking peoples. At any rate, such a coincidence is noted throughout recorded history, beginning with the sixth century B.C. when historical sources, such as the famous Behistun [Bisutun or Bisitun] inscription in western Iran, mention for the first time the ancient population of Central Asia. The process of Turkization of the language of the local population, which began later and proceeded from north and east, was accompanied by Mongolization of these Europeoid inhabitants.

For this reason, we are justified in expecting that the Turkic-speaking tribes appeared in Central Asia at the time and place of the first admixture of Mongoloid traits with the Europeoid population. In other words, the appearance of a Turkic language in a given locality may serve as a signal to the anthropologist that an admixture of Mongoloid traits is to be expected, or, conversely, the presence of Mongoloid characters as determined by anthropologists may indicate to the philologist the probable appearance of the Turkic language.

However, this parallelism of two processes, Mongolization of the type and Turkization of the language, was far from always complete, and did not take place even in some instances. For example, on territories nearest to the original area of the Mongoloids, those of Kazakhstan and Kirghizia, the Turkization of the local pre-Turkic population was accompanied by an intense Mongolization of the ancient local Europeoid type. The Mongoloid component prevails markedly in the racial composition of the modern Kazakhs and Kirghiz. On the contrary, in Uzbekistan and Turkmenia, which include the ancient districts of Chorasnia, Sogdiana, Bactria, Margiana (anc. Merv) and Parthia, the Turkization of the ancient local Iranian-speaking population was accompanied only by an admixture, although considerable in certain places, of Mongoloid traits to the autochthonous Europeoid population of these countries. The racial composition of the Uzbeks and the Turkomans exhibit clearly not a Mongoloid, but a dominant Europeoid, racial component.

Finally, in the long Turkized lands located far from areas of Mongoloids (for example, the Osmanli Turks of Anatolia and the Azerbaijanis of Iran whom we investigated), the admixture of Mongoloid traits is either negligible or completely absent. The latter case may be explained by the fact that the immigrating nation, frequently small in numbers, may "assimilate" the whole native population in regard to language, but will itself be racially "assimilated" by the numerically predominating stock of local population.

Thus, the processes of linguistic and racial assimilation may coincide, either partly or completely, or they may diverge.

The formation of "base languages,"¹⁸ in other words "ancestor-languages" ["prayazyki"] of the modern linguistic families does not, in very many cases, take place territorially within the "ancestral homeland" ["prarodina"] of a given race. Linguistic families could also have been formed in an anthropologically heterogeneous environment. Furthermore, the initial coincidence of a definite racial type with a definite linguistic family was disrupted radically by the subsequent migration of tribes which took place not only in Central Asia, but throughout Eurasia.

It is sufficient to mention that at present the Turkic languages, which extend from the Yakut ASSR at the northeastern tip of Eurasia to the Balkan Peninsula in the southwest, are spoken by representatives of very different Mongoloid and Europeoid races. On the other hand, members of the Great Europeoid Race speak not only the languages of the Indo-European family, but also Turkic, Semitic, Hamitic and Ibero-Caucasian languages.

Nevertheless, the foregoing does not preclude the raising of the question of a possible initial identification of definite languages with definite races. This question, which is one of the most important for the clarification of the whole problem of

Ethnogenesis, should be solved concretely in each case on the basis of a comparison of actual data on the Anthropology, Palaeoanthropology, and History of the migration of tribes and peoples and of the formation of their languages.

Soviet anthropologists, historians, archaeologists, ethnographers and philologists have created a completely new branch of history called Ethnogenetics, i.e., the science of the origin of tribes, peoples and nations, which involves four basic questions, each one of which represents an essentially independent, complex problem:

1. When, in which epoch, and where did the formation of the initial core of a certain nation take place? During that period, who inhabited that "ancestral homeland," of what racial composition was this population, and of what ethnic and linguistic affinity?

2. In which epoch, and through which countries did the initial core of a given nation migrate until it reached its present domicile? By whom were these countries populated, by what races and tribes, and what was their language? Also, to what extent did they enter into the composition of the initial core of a given nation?

3. Which population preceded the appearance of a people on the territory which it now occupies, what was its anthropological and tribal composition, and what language did this preceding population speak?

4. To what degree did the newcomers exterminate or dislodge, or, on the contrary, absorb the mass of the preceding population? In some cases the newcomers became "dissolved," were themselves assimilated by the much more numerous preceding population; in other cases, the newcomers were numerically stronger and assimilated, i.e., swallowed up and absorbed the local population into their own composition. Which element prevails in the present national association—the stock of the ancient local population or, on the contrary, that of the newcomers? In other words, the question is: who should be regarded as the ancestors of a given people, the local ancient tribes or the tribes which immigrated later?

The answer to the last question, particularly in the absence of sufficient definite information as to the numerical strength of the newcomers and of former inhabitants, will be decided by Anthropology. However, not one of the above-mentioned basic questions of Ethnogenetics may be solved without taking into account anthropological data.

Biologists have long used Haeckel's method of "triple parallelism" for the solution of problems concerning the origin, migration and settlement of zoological species, genera, families and other larger taxonomic units, i.e., of problems of phylogenesis. This method involves the comparison of the data of Comparative Anatomy, Embryology and Palaeontology. Similarly, for the solution of problems concerning the origin, migration and settlement of various tribes and peoples, i.e., problems of Ethnogenetics, a method of parallelism of its own must be applied—a method which juxtaposes the data of Anthropology, a biological science, with those of such Humanities as History, Archaeology, Linguistics and Ethnography. This method has become traditional in the works of the Soviet scientists, who created the new historical science of Ethnogenetics.

CHAPTER I

I. ETHNIC AND LINGUISTIC COMPOSITION OF THE POPULATION OF CENTRAL ASIA, AND DATA ON THE ANTHROPOLOGY OF ITS MODERN POPULATION.

The population of Central Asia is distinguished by its extraordinary diversified national, tribal, linguistic and racial composition. Various tribes of Central Asia have now become nations. As other nations, these national associations of Central Asia occupy definite territories, where their own contemporary national languages have been formed. These national languages are related to various groups of the Turkic family and the Iranian languages of the Indo-European linguistic family.

The Turkic-speaking nations of Central Asia include the Uzbeks, Kazakhs, Kirghiz, Turkomans and the Kara-Kalpaks. The Iranian-speaking nations are the Tadzhiks [Tajiks] and small ethnic groups living in isolation in the relatively inaccessible districts of the Pamir-Alai highlands, who still preserve relics of ancient Iranian languages. Such are the Yagnobi (IAgnobi), who live in the northern Pamir-Alai along the course of the Yagnob Darya,¹ one of the upper tributaries of the Zarafshan, and, south of those highlands, the Rushan, Shugnan, Vakhan [Wakhan], Ishkashim [Ishkashmi] and Goran tribes, who live on the banks of the Upper Pyandzh and its tributaries, the Bartang, Gunt, Shakh dara, Pamir Darya and Vakhan Darya. The territories occupied by these nationalities and tribes are shown on a schematic map.²

According to the Census of 1939, the most numerous of the Turkic-speaking nationalities of Soviet Central Asia are: (a) Uzbeks (4,884,000 within the boundaries of the USSR); (b) Kazakhs (3,500,000) of whom 3.1 million are on the territory of the USSR; (c) Kirghiz (approximately 1 million, of whom 884,000 are in the USSR); (d) Turkomans (812,000 in the USSR), and (e) the Kara-Kalpaks (186,000).

The territories, where the four most numerous Turkic-speaking peoples--Uzbeks, Kazakhs, Kirghiz and Turkomans--predominate, form the present separate Soviet Socialist Republics of Central Asia, while the territory inhabited mainly by the Kara-Kalpaks forms a separate Autonomous SSR within present Uzbekistan.

The Iranian-speaking Tadzhiks (1,229,000 in the USSR according to the 1939 Census) form the basic population of the fifth Republic, national in form, socialistic in content, of Central Asia--the Tadzhik SSR.

These peoples are not confined to the geographical limits of their own Republics, but, in varying numbers, are encountered in other Soviet Republics of Central Asia. Thus, compact groups of Tadzhiks live in various cities (Bukhara and Samarkand) and in many rural settlements of Uzbekistan and partly in Kirghizia. Uzbeks live in Tadzhikistan and Kazakhstan; Kirghiz in Uzbekistan and Tadzhikistan; Kazakhs in Uzbekistan, Turkmenia and Tadzhikistan; and Turkomans in Uzbekistan and in the Kara-Kalpak USSR.

In itself such dispersal of the principal nationalities of Central Asia over all of its territory excludes any possibility of limiting anthropological investigations to the present administrative boundaries of any one of the present Soviet Republics of Central Asia. For the study of the racial composition of its peoples, and for the clarification of the basic ethnogenetic processes, Central Asia must be regarded as an integral whole. Moreover, as it was pointed out in the Introduction, historically the population of Central Asia formed only part of the population of the immense

continent of Eurasia. From this point of view, it is also necessary to take into account those Mongoloid and Europeoid Races whose centers of distribution lie far beyond the bounds of Central Asia, as, for example, in the Sayan-Altai highlands, in Mongolia, in the Far East, and in countries of Anterior Asia.

Furthermore, of particular importance in the study of the racial composition and ethnogenesis of the peoples of Central Asia are ethnic groups from adjacent eastern countries, such as Sinkiang, Afghanistan and Iran [Persia]. The historical ties, in the course of many centuries, between these countries and Central Asia have been long known. In particular, these ties became reflected in the ethnic composition of the population of Central Asia and adjacent countries. On the one hand, separate and sometimes numerically strong groups of its nationalities live in Sinkiang (Uzbeks, Kazakhs and Kirghiz), in Afghanistan (approximately 2,000,000 Tadzhiks, 1,000,000 Uzbeks and 500,000 Turkomans), and in Iran (about 200,000 Turkomans). On the other hand, many emigrants from those countries settled in the Soviet Central Asian Republics. In Kirghizia and in the Ferghana Valley there live compact groups of Uigurs, who migrated from Sinkiang where they constitute the basic population. From Sinkiang also emigrated Dungans into various districts of Kirghizia. Groups of Baluchis, who originally inhabited Baluchistan [divided now between southeastern Iran and West Pakistan], have moved in Soviet times from Afghanistan into Turkmenia. Smaller groups of Persians [Iranians] and Azerbaijanis emigrated from Iran into various towns of Turkmenia, and some Kurdish tribes migrated into the Transcaspian steppes. During the last decade Koreans moved from the Far East into the Tashkent Oblast and into southern Kazakhstan.

An anthropological study of all these immigrants from the countries of the Near and Far East is very important for two reasons: in the first place, to differentiate the races which entered into the composition of the original population of Central Asia, from other Mongoloid and Europeoid races of Eurasia; and in the second place, to determine similarities or differences in basic ethnogenetic processes—in the historically caused successions of the racial, tribal and linguistic composition of the population of Central Asia and adjacent countries. The migration of these ethnic groups into Central Asia took place very recently--partly in the second half of the nineteenth century (Uigurs and Dungans), partly in Soviet times (Baluchis and Koreans). However, some groups which now constitute national minorities in Uzbekistan, and which did not mix at all or very little with the original population of Central Asia before the Great October Revolution, came from the countries of Anterior Asia about a thousand years ago. Such are Semitic in their original roots, namely groups of Jews in various towns of Central Asia, and Arabs, who live in some suburbs (so-called "Arab-Khona") near Samarkand, Bukhara, Kermine, and in various rural settlements (kishlaks).

It should be added to the foregoing that separate groups of clans, occasionally split within themselves, which later entered into the composition of more or less large tribal unions, did not unite into nations until Soviet times. However, before the Revolution, the peoples that led an essentially nomadic existence based on a cattle-raising economy (Kazakhs, Kirghiz and Turkomans) preserved durable clan and tribal structure. However, the settled rural agricultural and urban population in many oblasts and raions of Uzbekistan also preserved some clan and tribal designations. The racial composition of these ancient tribal and clan groups, which now are a part of large national unions in Central Asia, may be different--a fact of significance for several problems of Ethnogenesis. For this reason it is important that anthropological investigations in Central Asia should be carried out not only on the basis of large national unions but also with separate tribal and clan groups which enter into their composition.

The anthropological study of the population of Central Asia, which is so diversified as to tribes and languages, had already been begun by Russian investigators before the Great October Revolution.

Anthropology, as an independent science, is one of the youngest. Only during the second half of the nineteenth century did this discipline define the limits of its own field of investigation, and begin to work out its own methodology for the study of the phenomena within its field.

In Russia, the founder of this branch of science was one of the greatest Russian scientists, Anatolii Petrovich Bogdanov, Professor of Zoology, Moscow University. He was both a zoologist and an anthropologist, and the author of a series of anthropological publications. In Bogdanov's basic works, Anthropology appears as a very important branch of science in the clarification of a number of ethnogenetic problems. His craniological investigations, devoted to questions of the ethnogenesis of ancient Slavs, remain to this day a basic source for the ethnogenetic investigators of the Russian people. In 1864, he founded the Society of Friends of Natural Science, Anthropology and Ethnography, which in the following years published its Journal [Trudy]. In 1879, he organized an anthropological exhibition in Moscow. Many of his students became outstanding Russian scientists, zoologists and anthropologists; among them D. N. Anuchin, N. I. U. Zograf, M. A. Menzbir, M. V. Shimkevich, and others. Another of his students was A. P. Fedchenko, distinguished explorer of Central Asia, who collected the first anthropological data, partly on living subjects, partly from skeletal materials. These data were published by Bogdanov [2].

During pre-Revolutionary times, the elaborate network of modern research institutions, Academies of Science, Institutes and Institutions of Higher Learning, were not in existence in Central Asia. Nevertheless, multifaceted and sometimes very valuable studies of its nature and its population were made, at their own initiative, by individual inquisitive and cultured Russians who found themselves in obscure parts of Central Asia. Anthropological problems were dealt with mainly by physicians. According to the outlines and instructions drafted by the Society of Friends of Natural Science, Anthropology and Ethnography, the first anthropological investigations of various nationalities and tribes in Central Asia were conducted and published. Among physicians making these studies were the following: V. D. Tronov [45], A. P. Shishov [47], V. A. Blagoveshchenskii [1], V. E. Paisel [40], N. L. Zeland [18], and S. Weissenberg [Vaisenberg] [82].

The value of these investigations is still significant for comparative purposes. Some of the investigations were of great substantive value to this writer at the time when he was commencing his anthropological investigations of the population of Central Asia and did not have, as yet, his own data. Using modern methods of variational statistics he recalculated the published materials on the Anthropology of the Uzbeks of Tashkent by Shishov [47], the Turkomans by Iavorski [48], the Central Asiatic Jews by Weissenberg [82], and the Uigurs of Semirechie by Paisel [40]. The results obtained by the pioneer investigators of the Anthropology of Central Asia are included in table 3 in the general list of all data which we have used.

Particularly extensive and valuable data were collected more than half a century ago by N. V. Bogoiavlenskii, member of A. A. Semenov's ethnographic expedition. In 1898, Semenov, Bogoiavlenskii and A. A. Bobrinskii led an expedition to the less accessible mountainous districts of Tadzhikistan, to Darvaz, Karategin, and the Upper Zarafshan River.

In passing, we should note that in May, 1898, they stayed for a few days in the small obscure village of Dyushambe, the site of Stalinabad, the flourishing present capital of Tadzhikistan, where Semenov is now an active member of the Academy of Sciences of the Tadzhik SSR and the Director of its Institute of History, Archaeology and Ethnography. Under his leadership, the Staff of this Institute conducted

and published, in recent years, valuable studies on the Ethnography, Archaeology and History of Tadzhikistan. In 1898 Semenov, who is one of the earliest investigators of peoples of Central Asia, made the first ethnographic investigations of the population of Tadzhikistan. During Semenov's 1898 Expedition, Bogoiavlenskii collected the first extensive anthropological data on the Tadzhiks of Darvaz, Karategin and the Upper Zarafshan. The still less accessible southern Pamir regions were investigated by Bogoiavlenskii three years later, in 1901. Here he collected anthropological data on Rushan, Shugnan, Ishkashim, Goran and Vakhan tribesmen. His untimely death [1930] prevented him from publishing this material. Much later, Ginzburg [4] worked up this material according to modern variational statistical methods. This valuable material was published in *Antropologicheskii Zhurnal*, 1937. Bogoiavlenskii's material is also included in our summary (table 3).

However, because of the general development of Anthropology during the second half of the nineteenth century and the beginning of the twentieth century, all the aforementioned material can now be used only for comparative purposes. It consists mainly of series of character measurements and contributes little to the determination of racial types; in fact, for this purpose descriptive characters are not less important, and frequently more so, than measurements.

It is only during the Soviet period that anthropologists of the Lomonosov Moscow State University have worked out a new and detailed methodology of anthropological investigations; have resolved the question of the taxonomic value for the determination of various racial types; have developed methods of isolating racial types in a mixed population; and have unified programs of anthropological investigations. In addition to contributing a new methodology for special anthropological investigations, Soviet anthropologists have carried out a very large task in solving basic theoretical anthropological problems through the application of methods of dialectic materialism.

The new methodology and research programs thus developed and unified for the USSR by anthropologists of Moscow State University have been adopted by us, thus ensuring the comparability of our data with those obtained by other investigators.

The study of the anthropological composition of the population of Central Asia began in 1923. In view of the importance of this task, the Chair of Anthropology had been planned during the organization of the State University of Central Asia in 1920, although teaching did not begin until 1925. During the first three years [1923-25], Oshanin³ collected anthropological data, participating as a physician on expeditions for medical research which were conducted according to orders from the People's Commissariat of Health⁴ of the USSR. Since 1926, however, all expeditions were conducted by Oshanin and his fellow-workers with special objectives assigned by various scientific research institutions of the Central Asiatic Republics.

V. K. IAsevich, Scientific Director of the Uzbek Institute of Blood Transfusion, participated in our expeditions into the Kashka Darya Oblast (1927), Turkmenia (1929), the Pamirs (1935) and Yagnob (1936). On these expeditions IAsevich collected extensive material on blood groups of various tribes and peoples of Central Asia, as well as anthropological data. In 1930 he also traveled into the highlands of Tadzhikistan, to Karategin and Matcha on the Upper Zarafshan River, where he recorded anthropometric data on the Tadzhiks. With IAsevich's permission, these data have been included in our comparative tables.

A list of all our anthropological expeditions follows in table 1.

TAB

Year

1923

1924

1925

1926

1927

1928

1929

1930

1935

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TABLE 1: ANTHROPOLOGICAL EXPEDITIONS BY ASSOCIATES OF THE
DEPARTMENT OF ANTHROPOLOGY OF SAGU⁵ AND OF THE
INSTITUTE OF HISTORY AND ARCHAEOLOGY OF THE
ACADEMY OF SCIENCES OF THE UZBEK SSR

<u>Year</u>	<u>Expedition</u>
1923	Expedition to Khwarizm (Khoresm) as a member of the medical investigation team of the People's Commissariat of Public Health. L. V. Oshanin collected data on the Anthropology of Khwarizm Uzbeks. Published [27].
1924	Expedition to Issyk Kul and Tersky-Alatau, as a member of the medical investigation team of the People's Commissariat of Public Health. L. V. Oshanin collected data on the Anthropology of the Kirghiz. Published [26].
1925	Investigation of Karategin Tadzhiks at the cotton-ginning plants of the Tashkent Oblast by L. V. Oshanin. Partly published [35].
1926	L. V. Oshanin, leader of the Anthropological Expedition of the Uzbek State Scientific Research Institute to the Bukhara and Samarkand Oblasts. Data collected on the Anthropology of the Uzbeks, Tadzhiks and Jews. Published [29].
1927	L. V. Oshanin, leader, Anthropological Expedition of the Uzbek State Scientific Research Institute to the Kashka Darya Oblast. Data collected on the Anthropology of the Uzbeks, Jews and Arabs. Published [29].
1928	L. V. Oshanin's trip to Kirghizia. Data collected on the Anthropology of the Kazakhs and Kirghiz. Partly published [51].
1929	L. V. Oshanin, leader, Anthropological Expedition of TURKMEN-KULT to Turkmenia. Materials on the Anthropology of the Turkomans collected by L. V. Oshanin and V. K. Iasevich. Partly published [51].
1930-34	Investigation of Uzbek men and women in the city of Tashkent by L. V. Oshanin. Partly published [35].
1935	L. V. Oshanin, leader, Anthropological Pamir Expedition from the Institute of Experimental Medicine of Uz SSR on the study of the influence of climate on Man. Anthropological data collected by L. V. Oshanin, and published in a separate monograph [33].
1936	L. V. Oshanin, leader, Anthropological Expedition of the Institute of Experimental Medicine of Uz SSR to the upper course of the Zarafshan and Yagnob. Materials on the Anthropology of the Yagnobi and Tadzhiks collected by L. V. Oshanin. Partly published [35].

<u>Year</u>	<u>Expedition</u>
1937	L. V. Oshanin, leader, Anthropological Expedition of the Institute of Experimental Medicine of Uz SSR to the Kara Kum. Materials unpublished.
1939	Investigation of the Tadzhiks along the upper course of the Chirchik and Pskem rivers by students of the Department of Anthropology of SAGU under the leadership of L. V. Oshanin. Partly published [35].
1941	Participation in the State Expedition for the opening of the Gur-Emir Mausoleum and investigation of the remains of Timur and of the Timurids. Partly published by V. IA. Zezenkova [17].
1944	Travels of V. IA. Zezenkova, Assistant Professor of the Department of Anthropology of SAGU, to the Samarkand Oblast and to Nur-Ata. Investigation of the Turkomans of the Nuratin Mountains by members of the Institute of History and Archaeology AN Uz SSR. ⁶ Published [29].
1945	Anthropological Expedition of the Institute of History and Archaeology of the AN Uz SSR to study Koreans of the Tashkent Oblast. Expedition led by V. IA. Zezenkova. Partly published [35].
1946	Anthropological Expedition of the Institute of History and Archaeology of the AN Uz SSR to Kara-Kalpak ASSR. Expedition led by V. IA. Zezenkova. Partly published [35].
1947	Anthropological Expedition of the Institute of History and Archaeology of the AN Uz SSR to Kazakhstan, Kirghizia and Ferghana. Expedition led by V. IA. Zezenkova. Published [35].
1949	Anthropological Expedition of the Institute of History and Archaeology of the AN Uz SSR to the Ferghana Valley. Expedition led by V. IA. Zezenkova. Partly published [35].
1950	Anthropological Expedition of the Institute of History and Archaeology of the AN Uz SSR to the Surkhan Darya Oblast. Led by K. Nadzhimov, Senior Lecturer of the Department of Anthropology of SAGU. This material, part of his dissertation, is being prepared for publication and is partly published in this study.
1951	Continuation of the Anthropological Expedition to the Surkhan Darya Oblast. Led by K. Nadzhimov. This material, now being prepared for publication, is partly published in this study.
1952	Anthropological Expedition of the Institutes of History of the Academy of Sciences of Tadzhikistan and Uzbekistan to the southern districts of Tadzhikistan. Led by V. IA. Zezenkova. Partly published in this study.
1953	Continuation of the expedition to the southern districts of Tadzhikistan. Led by V. IA. Zezenkova. Partly published in this study.

<u>Year</u>	<u>Expedition</u>
1954	Anthropological Expedition of the Institute of History and Archaeology of the AN Uz SSR to the Angren Valley (Akhangoran and Pskent raions). Led by K. Nadzhimov. Partly published in this study.
1955-56	Anthropological Expedition of the Institute of History and Archaeology of the AN Uz SSR to Turkmenia. This material is being prepared for publication.

At the very beginning of the 1920's Moscow and Leningrad anthropologists began a systematic study of the anthropological composition of the entire multi-national population of the Soviet Union. These systematic investigations also covered the population of Central Asia. In 1926 the Academy of Sciences organized an anthropological expedition to Uzbekistan. Under the leadership of the Leningrad anthropologist V. V. Vishnevskii, this expedition recorded data on the Uzbeks, Tadzhiks and Iranians in Samarkand and Pendzhikent. Unfortunately, these data remain unpublished. During the following years, A. I. IArkho, Moscow State University anthropologist, led a number of expeditions into various districts of Uzbekistan, Kazakhstan, the Kara-Kalpak ASSR, Kirghizia and Turkmenia. An untimely death prevented IArkho from publishing all the material collected by him and his co-workers. Some data, however, were published during his lifetime [49-54] and posthumously [55-57], but the greater part still remains unpublished. With the permission of the Institute of Anthropology of Moscow State University, part of the statistically processed, but previously unpublished, material by IArkho has been included in our latest work [35], and part is published here for the first time.

During the thirties, Leningrad anthropologist V. V. Ginzburg led an expedition into Tadzhikistan. The extensive results were published in a separate monograph [3] and in periodicals [4, 6, 8].

After World War II the anthropologists of Moscow State University and of the Department of Anthropology of the Institute of Ethnography of the Academy of Sciences, V. V. Ginzburg, G. F. Debets, N. N. Cheboksarov, and M. G. Levin, led a number of expeditions to Kazakhstan, Kirghizia and Uzbekistan. Part of their extensive data was published by them, in abbreviated form, in periodicals [11], and part, statistically processed, was sent to us on an exchange basis.

Our work is carried out in close contact with the anthropologists of Moscow State University and of the Department of Anthropology of the Institute of Ethnography of the Academy of Sciences. A helpful tradition of exchanging unpublished material has been established with the right of publication as comparative data whenever warranted in the interest of Soviet Anthropology.

In table 2 are represented all peoples of Central Asia which have, up to this time, been investigated by Soviet anthropologists in accordance with their unified programs.

Table 3 lists the regions in which the investigations were conducted, the year, and the recorder.

From these tables it is clear that the anthropological studies of the peoples of Soviet Central Asia are now so extensive that this region may be regarded as one of the most completely investigated in the Soviet Union.

The material shown in tables 2 and 3 forms the basis of the present study.

TABLE 2: GROUPS AND IMMIGRANTS STUDIED IN CENTRAL ASIA

<u>Groups</u>	<u>Males</u>	<u>Females</u>
Central Asia		
Uzbeks	5803	1269
Tadzhiks	3927	720
Kirghiz	3207	118
Kazakhs	1581	289
Turkomans	1427	286
Mountain tribes (Tadzhikistan)	887	0
Kara-Kalpaks	675	253
Kipchaks	361	202
Pamir tribes (later Tadzhiks)	205	0
Immigrants from Neighboring Countries		
Uigurs	1351	294
Koreans	675	168
Jews	448	0
Azerbaijanis, Persians, Baluchis	209	0
Arabs	146	0
Dungans	69	76
Total	20,971	3,675

TABLE 3: GROUPS STUDIED BY DISTRICT

KIRGHIZ

No.	District	Males	Females	Observer	Year
1	Issyk-Kul (shores)	100	0	Oshanin [26]	1924
2	Issyk-Kul (shores)	213	0	Miklashevskaja	1953
3	Tien Shan (various Districts)	782	0	I Arkho [54]	1928
4	Tien Shan (northern Districts)	166	0	Miklashevskaja [23]	1953
5	Tien Shan (southern Districts)	282	0	Miklashevskaja [23]	1953
6	Talass Valley	100	0	Oshanin [35]	1929
7	Talass Valley	333	0	Miklashevskaja [39, 23]	1953
8	Chu Valley	125	0	Miklashevskaja	1953
9	Kant Raion near Frunze	0	118	Zezenkova [35]	1947
10	Ferghana Valley	292	0	I Arkho [75]	1928
11	Ferghana (southern Districts)	259	0	Miklashevskaja [23]	1953
12	Ferghana (eastern Districts)	165	0	Miklashevskaja [23]	1953
13	Ferghana (northern Districts)	217	0	Miklashevskaja [23]	1953
14	Alai Valley	101	0	Miklashevskaja [23]	1953
15	Alai Valley	35	0	Oshanin [35]	1935
16	Pamir Plateau	37	0	Oshanin [35]	1935
Total..		3,207	118		

KAZAKHS

17	Talass Valley	100	0	Oshanin [35]	1928
18	Kara-Kalpak ASSR	0	52	Zezenkova [35]	1946
19	Alma-Ata	0	36	Zezenkova [35]	1946
20	Alma-Ata	83	0	Debets [11]	1936
21	Eastern Kazakhstan	65	0	Debets [11]	1936
22	Karaganda	130	0	Debets [11]	1936
23	Western Kazakhstan	74	0	Debets [11]	1936
24	Southern Kazakhstan	80	0	Debets [11]	1936
25	Ili River lowlands (Dzhalaïr tribes)	99	0	Debets [11]	1940
26	Alma-Ata Oblast	...	...	.....	
27	Bolshaia Orda	207	141	Levin [11]	1946
28	Bolshaia Sredniaia Orda	50	0	Levin [11]	1946
29	Kzyl-Ordin Oblast	...	...	.....	
30	Malaia Orda (Little Horde)	111	0	Levin [11]	1946
31	Dzharkent (Panfilov Raion)	126	0	Cheboksarov [11]	1947
32	Tien Shan (Narynkolskii Raion)	114	0	Ginzburg [11]	1947
33	Tien Shan (Kegenskii Raion)	136	0	Ginzburg [11]	1947
34	Tien Shan (Kegenskii Raion)	102	0	Miklashevskaja [23]	1953
35	Chimkent and Dzhambul Raions	104	0	Miklashevskaja [23]	1953
Total..		1,581	229		

TABLE 3 (continued)

KARA-KALPAKS

No.	District	Males	Females	Observer	Year
36	Kara-Kalpak ASSR	303	0	IArkho [57]	1930
37	Kara-Kalpak ASSR	87	138	Zezenkova [35]	1946
38	Ferghana Valley	100	0	IArkho [53]	1928
39	Ferghana Valley	85	115	Zezenkova [35]	1948
40	Ferghana Valley	100	0	Zolotareva [19]	1953
Total..		675	253		

KIPCHAKS

41	Ferghana Valley	100	0	IArkho [53]	1928
42	Ferghana Valley (Pap Raion)	159	202	Zezenkova [35]	1948
43	Ferghana Valley (Izbaskent and Naryn Raions)	102	0	Zolotareva [19]	1953
Total..		361	202		

UZBEKS OF DEFINITE CLANS AND TRIBES

No.	District	Tribes and Clans	Males	Females	Observer	Year
44	Khwarizm					
	(Khorezm)	Mangyt	80	0	IArkho [53]	1929
45	Angren Valley	Uishun	130	0	IArkho [53]	1929
46	Angren Valley	Ivelek	123	0	IArkho [53]	1929
47	Angren Valley	Ungut	53	0	IArkho [53]	1929
48	Angren Valley	Kanzhigalys	45	0	IArkho [53]	1929
49	Angren Valley	Dzhair	51	0	IArkho [53]	1929
50	Angren Valley	Kereit	69	0	IArkho [53]	1929
51	Angren Valley	Balgals	126	0	IArkho [53]	1929
52	Angren Valley	Other clans and tribes	75	0		1929
53	Angren Valley	Various clans and tribes	188	267	Nadzhimov	1954
54	Angren Valley	Turki	22	16	Nadzhimov	1954
55	Ferghana Valley	Turki Kalta-tai	100	0	IArkho [53]	1928
56	Ferghana Valley	Turki Barlas	100	0	IArkho [53]	1928
57	Ferghana Valley	Turki	103	0	Zolotareva [19]	1953
58	Samarkand Oblast	Various tribes	160	0	Oshanin [35]	1926
59	Kermine Raion	Various tribes	95	0	Oshanin [29]	1926
60	Shakhrasiab	Various tribes	190	0	Oshanin [29]	1927
61	Kitab	Various tribes	202	0	Oshanin	1927
62	Karshi	Various tribes	200	0	Oshanin [29]	1927
63	Guzar	Various tribes	267	0	IAsevich	1927
64	Surkhan Darya Oblast	Kungrad (Kungrat)	475	0	Nadzhimov	1951-52
65	Surkhan Darya Oblast	Turki	170	0	Nadzhimov	1951-52
66	Surkhan Darya Oblast	Yuz (IUz)	87	0	Nadzhimov	1951-52
67	Surkhan Darya Oblast	Other small tribes	116	0	Nadzhimov	1951-52
68	Southern Tadzhiki- stan	Lokai	67	0	Oshanin	1935
69	Southern Tadzhiki- stan	Lokai	197	135	Zezenkova	1952-53
70	Southern Tadzhiki- stan	Karluk	105	122	Zezenkova	1952-53
71	Southern Tadzhiki- stan	Barlas	76	148	Zezenkova	1952-53
72	Southern Tadzhiki- stan	Kesemir	75	43	Zezenkova	1952-53
73	Southern Tadzhiki- stan	Semiz	31	33	Zezenkova	1952-53

TABLE 3 (continued)

No.	District	Tribes and Clans	Males	Females	Observer	Year
74	Southern Tadjhiki-	Musa-Bazari	26	16	Zezenkova	1952-53
75	Southern Tadjhiki-	Dzhan-Katagan	22	22	Zezenkova	1952-53
76	Southern Tadjhiki-	Kauchin	21	14	Zezenkova	1952-53
77	Southern Tadjhiki-	Kungrad	17	26	Zezenkova	1952-53
78	Southern Tadjhiki-	Mirshikor (Meri-	12	24	Zezenkova	1952-53
		shhor)				
79	Southern Tadjhiki-	Other small tribes	18	43	Zezenkova	1952-53
		Total..	3,894	909		

Note: In the Angren Valley Nos. 48-54 belong to the Kurama tribes and clans. Nos. 60-63 are in the Kashka Darya Oblast.

UZBEKS OF UNKNOWN CLAN AND TRIBAL SUBDIVISION

No.	District	Males	Females	Observer	Year
80	Khwarizm (Khorezm)	100	0	Oshanin [27]	1923
81	Khwarizm	100	0	IArkho [53]	1930
82	Khwarizm	0	86	Zezenkova [35]	1946
83	Tashkent	119	0	Shishov [47]	1905
84	Tashkent	200	0	Oshanin [35]	1930
85	Tashkent	133	0	Oshanin [35]	1948
86	Samarkand	86	0	Oshanin [35]	1926
87	Angren Valley	181	159	Nadzhimov	1954
88	Ferghana Valley (Andizhan)	199	0	IArkho [35]	1929
89	Ferghana Valley (Namangan)	200	0	IArkho [35]	1929
90	Ferghana Valley (Sharikhan)	95	0	Oshanin [35]	1938
91	Ferghana Valley (Kuva)	200	0	Oshanin [35]	1938
92	Ferghana Valley (Pap)	36	23	Zezenkova [35]	1949
93	Ferghana Valley (Leninsk or Assake)	91	92	Nadzhimov [35]	1949
94	Ferghana Valley (Various)	116	0	Zolotareva [19]	1953
95	Surkhan Daryn Oblast	53	0	Nadzhimov	1951-53
	Total..	1,909	360		

TADZHIKS OF THE UZBEKISTAN PLAINS AND PIEDMONT

No.	District	Locality	Males	Females	Observer	Year
96	Towns Uzbekistan	Samarkand	?	0	Petrov [35]	1927
97	Towns Uzbekistan	Samarkand	139	0	Oshanin [35]	1926
98	Towns Uzbekistan	Bukhara	163	0	Oshanin [35]	1926
99	Upper tributaries of Chirchik, Kok-Su and Pskem Rivers	Brich-Mulla, Nanai and Bogustan	154	100	Oshanin [35]	1940
100	Angren Valley		58	47	Nadzhimov	1954
101	Ferghana Valley	.....	15	0	Blagoveshchenskii [1]	1912
102	Ferghana Valley	.....	200	0	IArkho [53]	1929
103	Ferghana Valley	Pap Raion	55	61	Zezenkova [35]	1949
104	Ferghana Valley	Kanibadam, Isfara	76	0	Ginzburg [5]	1937
105	Ferghana Valley	Leninabad	37	0	Ginzburg [5]	1937
106	Ferghana Valley	Ura-Tiube, Shakhristan	35	0	Ginzburg [5]	1937
107	Ferghana Valley	Ura-Tiube, Shakhristan	?	0	Petrov [5]	1927

TABLE 3 (continued)

No.	District	Locality	Males	Females	Observer	Year
108	Ferghana Valley	Ura-Tiube, Shakhristan	?	0	Petrov [5]	1927
109	Ferghana Valley	Vuadil, Kassansai	99	0	Zolotareva [19]	1953
110	Ferghana Valley	Chust	0	50	Oshanin [35]	1937
111	Ferghana Valley	Uch-Kurgan	0	29	Oshanin [35]	1937
112	Southern Uzbeki- stan, Surkhan Daryn Oblast	.....	221	0	Nadzhimov	1951-52
Total..			1,252	287		

TADZHIKS OF THE TADZHIKISTAN PIEDMONT

No.	District	Males	Females	Observer	Year
113	Southern Tadzhikistan (Baldzhuan and Muminabad)	117	124	Zezenkova	1952
114	Southern Tadzhikistan (Dangara)	58	66	Zezenkova	1952
115	Southern Tadzhikistan (Kangur)	38	66	Zezenkova	1952
116	Southern Tadzhikistan (Khovaling)	36	49	Zezenkova	1952
117	Southern Tadzhikistan (Kyzyl-Mazar)	12	40	Zezenkova	1952
118	Southern Tadzhikistan (IAvan Valley)	94	88	Zezenkova	1953
119	Southern Tadzhikistan (IAkh-Su Valley)	37	0	Bogoiavlenskii [7]	1898
120	Central Tadzhikistan (Upper Varzob, Zidda)	33	0	Oshanin [35]	1935
121	Central Tadzhikistan (Eastern Raions)	147	0	Ginzburg [5]	1937
122	Central Tadzhikistan (Central Raions)	33	0	Ginzburg [5]	1937
123	Western Tadzhikistan (Pendzhikent)	279	0	Vishnevskii [5]	1926
Total..		884	433		

TADZHIKS OF THE TADZHIKISTAN HIGHLANDS

124	Darvaz (Khingou Valley)	45	0	Bogoiavlenskii [4]	1898
125	Darvaz (Piandzh Valley)	85	0	Bogoiavlenskii [4]	1898
126	Darvaz (Central and Eastern)	132	0	Ginzburg [3]	1933
127	Darvaz (Southwestern)	159	0	Ginzburg [3]	1933
128	Karategin (Various Districts)	42	0	Bogoiavlenskii [4]	1898
129	Karategin (Various Districts)	433	0	Oshanin [35]	1926
130	Karategin (Garm)	150	0	IAsevich [35]	1930
131	Karategin (Various Districts)	174	0	Ginzburg [3]	1932
132	Upper Zarafshan River	13	0	Bogoiavlenskii [4]	1898
133	Upper Zarafshan River	34	0	Maslovskii	1899
134	Upper Zarafshan River (Matcha)	102	0	IAsevich [35]	1930
135	Upper Zarafshan River (Zakhmatabad, Varza- minor)	101	0	Oshanin [35]	...
136	Upper Zarafshan River (IAgnob Darya, Takfon)	60	0	Oshanin [35]	1936

TABLE 3 (continued)

No.	District	Males	Females	Observer	Year
137	Upper Zarafshan River (Yagnob Darya, Khshartob)	51	0	Oshanin [35]	1936
	Total..	1,581	0		

ANCIENT HIGHLAND TRIBES OF SOUTHERN TADZHIKISTAN
(NOW TADZHIK-SPEAKING)

No.	District	Tribes	Males	Females	Observer	Year
138	Vanch Valley	Vanchi	42	0	Bogoiavlenskii [4]	1901
139	Vanch Valley	Vanchi	23	0	Stein [35]	1915
140	Vanch Valley	Vanchi	80	0	Korovnikov [35]	1928
141	Vanch Valley	Vanchi	40	0	Ginzburg [3]	1932
142	IAzgulem Valley	IAzgulemi	20	0	Stein [35]	1915
	Total..		205	0		

MOUNTAIN TRIBES OF TADZHIKISTAN WHICH PRESERVED
TRACES OF ANCIENT IRANIAN LANGUAGES

143	Yagnob Darya Valley	Yagnobi	103	0	Oshanin [33]	1936
144	Rushan	Rushani	40	0	Bogoiavlenskii [4, 7]	1901
145	Rushan	Rushani	58	0	Stein [35]	1915
146	Rushan	Rushani	40	0	Oshanin [33]	1935
147	Bartang Valley	Bartangi	13	0	Oshanin [33]	1935
148	Shugnan	Shugni	40	0	Stein [33]	1915
149	Shugnan (Gunt Valley)	Shugni	83	0	Bogoiavlenskii [4, 7]	1901
150	Shugnan (Gunt Valley)	Shugni	64	0	Oshanin [33]	1935
151	Shugnan (Piandzh Valley)	Shugni	138	0	Oshanin [33]	1935
152	Shugnan (Shakhdara Valley)	Shugni	29	0	Oshanin [33]	1935
153	Shugnan (Shakhdara Valley)	Shugni	35	0	Bogoiavlenskii	1901
154	Vakhan	Vakhani	54	0	Stein [35]	1915
155	Vakhan	Vakhani	55	0	Bogoiavlenskii [4, 7]	1901
156	Vakhan	Vakhani	52	0	Oshanin [33, 49]	1935
157	Garan	Garani (now Tadjik-speaking)	21	0	Bogoiavlenskii [4, 7]	1901
158	Ishkashim	Ishkashim	21	0	Bogoiavlenskii [4]	1901
	Ishkashim	Ishkashim	34	0	Stein [35]	1915
	Ishkashim	Ishkashim	7	0	Oshanin [33]	1935
	Total..		887	0		

TURKOMANS

159	Mary (Merv)	Teke	200	100	Oshanin and Iasevich [35]	1929
160	Kara Kum	Teke	165	0	Elistratov and Shmakov [35]	1936
161	Kara-Kala	Gokleni	155	100	Oshanin and Iasevich	1929
162	Kazandzhik	Yomudi	150	0	Oshanin [35]	1929
163	Kara Kum	Yomudi	43	0	Elistratov and Shmakov [35]	1936
164	Khwarizm	Yomudi	107	0	IArkho [52]	1930
164a	Khwarizm	Chaudyri	200	0	IArkho	1930
165	Kelif	Ersari	124	0	Oshanin [25]	1926
166	Bakharden (Murcha Aul)	Murchali	80	37	Zezenkova	1952
167	Southern Uzbekistan (Termez)	Ersari	203	49	Nadzhimov	1952
	Total..		1,427	286		

TABLE 3 (continued)

UIGURS FROM SINKIANG

No.	District	Males	Females	Observer	Year
168	Ili Valley	277	0	Paisel [40]	1893
169	Ili Valley	246	0	IArkho [53]	1929
170	Alma-Ata Oblast	254	132	Levin [11]	1946
171	Panfilov (Dzharkent Raion)	138	0	Cheboksarov [11]	1947
172	Tien Shan (Aksui Raion)	147	0	Ginzburg and Cheboksarov [11]	1947
173	Kant Raion (near Frunze)	34	62	Zezenkova [35]	1947
174	Ferghana Valley (Leninsk, Assake)	135	100	Zezenkova [35]	1947
175	Osh and Ferghana Valley (Kuva Pakhta-Abad)	120	0	Zolotareva [19]	1953
Total..		1,351	294		

DUNGANS FROM DZHUNGARIA

176	Alma-Ata	23	14	Levin	1946
177	Kant Raion (near Frunze)	46	62	Nadzhimov [36]	1946
Total..		69	76		

KOREANS FROM FAR EAST

178	Tashkent Oblast (Nizhne-Chirchik Raion)	189	168	Zezenkova [35]	1945
179	Tashkent, Samarkand and Kzyl-Ordin Oblasts	486	0	Levin	1946
Total..		675	168		

GROUPS FROM IRAN

180	Azerbaijanis (Tabriz)	53	0	Oshanin [35]	1929
181	Persians (Khurasan)	56	0	Oshanin [35]	1929
182	Baluchis (Baluchistan)	84	0	Oshanin [35]	1929
183	Kurds (Azerbaijan)	16	0	Elistratov and Shmakov	1936
Total..		209	0		

Note: Azerbaijanis in Iran, but Azerbaidzhanis in Transcaucasia (H. F.).

ANCIENT GROUPS FROM ANTERIOR ASIA

No.	Group	Locality	Males	Females	Observer	Year
184	Jews	Herat	10	0	Weissenberg [82]	1919
185	Jews	Samarkand	100	0	Weissenberg [82]	1919
186	Jews	Bukhara	40	0	Weissenberg [82]	1919
187	Jews	Bukhara	136	0	Oshanin [29, 35]	1926
188	Jews	Kermine	59	0	Oshanin [29, 35]	1926
189	Jews	Shakhrasiab	103	0	Oshanin [29, 35]	1927
190	Arabs	Kamashi near Karshi	100	0	Oshanin [29, 35]	1927
191	Arabs	Surkhan Daryn Oblast	46	0	Nadzhimov	1951
Total..			594	0		

II. GEOGRAPHICAL DISTRIBUTION OF BASIC ANTHROPOLOGICAL CHARACTERS OF THE POPULATION OF CENTRAL ASIA AND THE ISOLATION OF RACIAL TYPES

The importance of the study of the present and past geographic distribution of human races for the clarification of fundamental problems of Ethnogenesis has been pointed out in the Introduction.

In addition to the complex of morphological traits, which are transmitted by inheritance in the course of an indefinitely long period of time, there is also, as a characteristic peculiarity of human races, a definite area or center of distribution where characters specific for a given race are most concentrated, and where they are most frequently encountered.

Likewise, one of the specific characteristics of a nation is a definite territory where the formation of a given nation took place historically. The basic national unions of Central Asia--the Kirghiz, Kazakhs, Uzbeks, Turkomans and the Tadzhiks--were formed on different territories. In comparing these unions anthropologists find the greatest concentration of definite racial traits in the territory which is occupied by the given national union and, at the same time, reveal the differences in the racial composition of the peoples of Soviet Socialist Central Asia.

Whereas present-day national unions in this area use languages belonging to two linguistic families--Turkic (Kirghiz, Kazakhs, Uzbeks and Turkomans), and Iranian (Tadzhiks)--a comparative anthropological analysis also discloses differences in the racial composition of these Turkic-speaking and Iranian-speaking peoples of Central Asia. For this reason, the geographical and comparative anthropological methods came to be generally regarded in the Soviet Union as the most effective means for the isolation of races in mixed populations, and simultaneously for the disclosure of similarities or differences in the racial structure of nations that speak the same or different language families. The latter point is of definite significance in the clarification of problems regarding the correlation of racial types with linguistic families.

On the basis of all the data listed in tables 2 and 3, chapter I, the geographical distribution of the most important anthropological characters of the highly mixed population of Central Asia has now been thoroughly investigated.

As previously mentioned in the Introduction, Central Asia represents an extensive border zone between the initial distribution areas of two basic Great Races of Eurasia, the Mongoloid and the Europeoid, each of which differentiated into a number of small racial groups, or races of the second order. The Mongoloid races moved into the territory of Central Asia, originally occupied by local Europeoid races, from the east and north. The closer the present Republic lies to the common initial area of distribution of the Mongoloid races, the more intensively was that territory settled by peoples of Mongoloid type. This is reflected in the geographical distribution of individual Mongoloid and Europeoid characters among the basic modern national unions of Central Asia--Uzbeks, Kazakhs, Kirghiz, Turkomans and the Tadzhiks.

In order to isolate the Mongoloid and Europeoid components, we give the distribution of the basic anthropological characters among these five peoples. These peoples live not only within the limits of their present-day Republics, but also in the neighboring Soviet Republics of Central Asia, where they had become mixed, in greater or lesser degree, with the indigenous population. For this reason we present data of only those groups living within the boundaries of their own Republics.

Regions in which investigations were made are indicated in table 2, chapter I.

In addition to the Turkoman tribes listed in table 2, we also included the Baiat, Salyr, Soryk tribes and Ersari tribe of Chardzhou, studied during 1955-56 by Nadzhimov.

As shown in table 2, the investigations covered the Kirghiz of various regions, from the Issyk Kul basin in the north to the Alai Valley and Pamir Plateau in the south, from the Talass and Chu lowlands in the west to the boundary of China in the east. Within the boundaries of Kazakhstan, groups of Kazakhs were investigated in the northern, central, southern, western and eastern parts. Investigations also covered all of Uzbekistan, from Khwarizm in the west to the Ferghana Valley in the east, and from the Tashkent Oblast in the north to the Surkhan Darya Oblast in the south. The Tadzhiks were studied in various raions of northern, central and southern Tadzhikistan. The Turkomans were examined from Khwarizm in the west to the boundaries of Afghanistan in the east, and from Mary [Merv] in the north to the boundaries of Iran in the south.

For the sake of brevity, we use the term "Mongoloid" for all Mongoloid races of the second order, that is, representatives of the Great Mongoloid Race as a whole, and the term "Europeoid" for representatives of all Europeoid races of the second order, i. e., the Great Europeoid Race as a whole. Some of the racial characters are determined on the basis of a generally accepted standard of grading, while others may be precisely measured. The former are called descriptive or qualitative; the latter, metric or quantitative characters. Mongoloids differ from Europeoids in a number of metric and descriptive characters.

Particularly significant descriptive traits distinguishing the Mongoloids from Europeoids are the following: (a) the presence of the "Mongoloid fold"; (b) sparse hair on the face and body; (c) a flat face, as if flattened backward, with very pronounced malars; (d) more convex position of the eyeballs in the orbital cavities; and (e) a number of traits that characterize the morphology of the nose. Among the measurable features, considerably greater longitudinal and especially transverse diameters of the head and face are characteristic for the Mongoloids. The same metric characters distinguish not only the Mongoloids from the Europeoids as a whole, but also those Europeoid races of the second degree which entered into the composition of the population of Central Asia.

The territory closest to the general initial area of distribution of the Mongoloid races are the countries north of the Syr Darya, namely the broad steppe belt of Central Asia, and the mountain system of Tien Shan, now part of the Kirghiz and Kazakh SSR. The greatest concentration of Mongoloid characters may be observed among the Kirghiz and Kazakhs, who speak a Turkic language. However, among other Turkic-speaking nations living south of the Syr Darya (Uzbeks and Turkomans) the Mongoloid traits are greatly reduced. Among the Iranian-speaking Tadzhiks Mongoloid traits are, as a rule, completely absent, or in the rare cases where they do occur, appear only as an insignificant admixture.

The comparative tables indicate the distribution of Mongoloid traits among the above-mentioned nationalities of Central Asia.

One of the most characteristic Mongoloid traits is the presence of a special fold in the upper eyelid which has long been known in Anthropology as the "Mongoloid" or epicanthic fold. Its presence may be considered an "indicator" of the Mongoloid Race, since its distribution corresponds with the distribution of all other Mongoloid characters. The upper eyelid usually has some kind of skin fold, but its position is different in Mongoloids and Europeoids. In the latter, the fold of the upper eyelid is high and does not cover either the free edge of the upper lid on which the eyelashes grow, or the inner corner of the eye where the caruncula lacrymalis is located. Among the Mongoloids, this fold is considerably lower, and covers the free edge of the upper eyelid as well as the inner corner of the eye with the caruncula lacrymalis.

That part of the Mongoloid fold which is located above the inner corner of the eye, also partly covering the caruncula lacrymalis, likewise is called the inner or internal epicanthic fold. In typical cases, the epicanthus begins at the lower eyelid, curves like a sickle over the corner of the eye, and extends along the upper eyelid as a solid fold which is called the epicanthic or Mongoloid fold of the upper eyelid.

The eyes of a Japanese and of a European are typical, markedly expressed cases. [Russian text, p. 60; see also Rudolf Martin, vol. 1, p. 528, 1928.] However, a simple Europeoid fold frequently simulates a Mongoloid fold by being located below the usual position, but failing to produce a genuine epicanthic fold. For this reason table 4 indicates merely the percentage of occurrence of the Mongoloid fold among the nationalities of Central Asia. However, there is a great variation in the degree of development of the inner epicanthic fold. Hence there is an almost unavoidable subjective element in its diagnosis. Thus, I Arkho noted many fewer cases of the Mongoloid fold among the Kirghiz than did we and other Moscow anthropologists. There are no essential differences between our observations and those made by Debets, Levin and Cheboksarov. Therefore, the only data shown are those obtained by ourselves and the above-named Moscow anthropologists.

In table 4, the letter M indicates the general average [Mean] percentage of epicanthic fold occurring in each given people. Min. and Max. are the minimum and maximum percentages of the groups living in various regions, while the letter N indicates the number of subjects examined. The tables follow this arrangement.

Table 4: Mongoloid Fold (Percentages)

People	Male				Female			
	No.	Min.	Max.	Mean	No.	Min.	Max.	Mean
Kirghiz ¹	1292	45.0	74.4	51.1	118	....	....	83.1
Kazakh	1480	6.3	49.0	22.5	228	37.6	68.6	53.1
Uzbek ²	4401	0.0	35.4	10.6	201	14.0	21.7	17.9
Turkoman	1901	0.3	19.0	5.9	789	1.6	27.0	10.1
Tadzhik	2000	0.0	10.1	1.9	671	7.0	18.8	10.5

Table 4 shows that the maximum concentration of epicanthus was observed among the Kirghiz who have the highest percentage of its occurrence. In this group, the minimum percentage (45.0) occurred among Kirghiz investigated by Debets at Issyk Kul and the maximum (74.4) among Kirghiz observed by Oshanin on the Pamir Plateau. Among the Kazakhs, the mean as well as the minimum and maximum percentages of this character are considerably lower. Among the Turkic-speaking nationalities living further south, the Uzbeks and Turkomans, the respective percentages are still less, while among the Iranian-speaking Tadzhiks, the epicanthic fold is either completely absent, or is noted merely as an insignificant admixture in some regions of Tadzhikistan. The same relationship is observed among female groups.

On the basis of the geographical distribution alone of this character, we may state that the migration of Mongoloid races started from the east, from their common initial area of distribution. They occupied most intensively the mountains and foothills of the Tien Shan, to a lesser degree the plains of present-day Kazakhstan, i. e., the broad, northern steppe belt of Central Asia, whence they penetrated, in still smaller numbers, the plains of Uzbekistan and Turkmenistan, by-passing almost completely the foothills and the mountains of the Pamir-Alai which at present are occupied by the Iranian-speaking Tadzhiks.

Hair. Another characteristic trait, distinguishing the Mongoloid from the Europeoid, is the degree of development of facial and body hair. This is called tertiary or

terminal hair cover, since it does not develop until puberty, as contrasted with the secondary hair cover which begins to develop prenatally and which encompasses in the [live-born] only the hair on the head, eyebrows and eyelashes. The primary hair cover envelops the entire body of the fetus (one of the proofs that Man sprang from hirsute ancestors), and disappears completely during fetal life. The development of the tertiary hair cover on the face (beard and mustache) and on the body (pubic region, armpits, trunk and extremities) is usually graded as follows: 1, absent or very scanty; 2, scanty or sparse; 3, average; 4, abundant; and 5, very abundant. The degree of development of facial hair corresponds to general hirsuteness. Therefore, we have only given data on the development of beard growth for men more than 25 years of age.

Characteristic for the Mongoloids is a poorly developed beard (grades 1-2), and for the Europeoids of Central Asia an average and above-average development (grade 3 tending to 4).

In table 5, the means designate the average of beard development within each group. The minimum and maximum categories are given for various groups of the same nationality living in different and distant raions. N = number of subjects examined. The latter is considerably smaller than in the preceding case because only males more than 25 years old have been included. Furthermore, the spreading custom of shaving the beard often makes it almost impossible to determine the degree of beard growth.

Table 5: Beard Development (Males aged 25-x)

People	No.	Minimum	Maximum	Mean
Kirghiz	1276	1.04	1.88	1.73
Kazakh ³	925	1.60	2.26	1.97
Uzbek ⁴	2781	1.96	3.34	2.70
Turkoman	580	2.49	3.38	2.93
Tadzhik	1198	2.96	4.15	3.15

The geographical distribution of the degrees of development of the tertiary hair cover follows precisely that of the Mongoloid fold among the five basic nationalities of Central Asia. The scantiest hair growth occurs among the Kirghiz, who live in scattered raions of Kirghizia. Among the Kazakhs, who occupy the broad steppe zone of Central Asia, the hirsuteness is considerably higher. An average development of hair growth (mean about grade 3, characteristic for Europeoids) was recorded among the Uzbeks and Turkomans, the Turkic-speaking nationalities, the majority of whom live south of the Syr Darya. The most intensive beard growth was observed among the Iranian-speaking Tadzhiks.

Thus, geographic distribution of individual anthropological characters, which differentiate the Mongoloids from the Europeoids are, in effect, "tracks" left by the process of settlement of the Mongoloid races in Central Asia.

Face. Another characteristic trait, which differentiates Mongoloids from Europeoids, is the degree of facial flatness.

Among typical Mongoloids, the entire face, especially the mid-facial section with wide and prominent zygomata, appears to be flattened backward. In contrast, among Europeoids the so-called "horizontal profile of the middle face" narrows to a certain degree in a forward direction [alveolar prognathism].

The degree of facial flatness or, conversely, the narrowing of the face in a forward direction may be assigned numerical grades as follows: 1, flat; 2, medium variants of its narrowness; and 3, faces strongly narrowed in front. The greater the facial flatness of the population of a given region, the closer do the average grades

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approach grade 1; the narrower the faces become in the forward direction, the higher become the grades.

As in the diagnosis of other descriptive characters, experience and a trained eye are necessary in order to develop appropriate scales. As there are no contradictions in the observations made by other investigators among the same peoples when compared with our observations, we summarize here all the data obtained.

Table 6: Horizontal Facial Profile

People	Male				Female			
	No.	Min.	Max.	Mean	No.	Min.	Max.	Mean
Kirghiz	2018	1.03	1.32	1.22	188	....	....	1.19
Kazakh	1580	1.12	1.92	1.33	288	1.02	1.37	1.18
Uzbek	3587	1.48	2.27	1.83	201	1.87	1.96	1.93
Turkoman	1706	1.69	2.35	1.99	789	1.76	2.31	1.92
Tadzhik	1599	1.90	2.53	2.20	566	1.86	2.13	1.97

Thus, the geographical distribution of this character traces the same path of migration of flat-faced Mongoloids from the mountains of Kirghizia down to the plains of Kazakhstan, and further south to the plains of Uzbekistan and Turkmenia, by-passing the Pamir-Alai system occupied by the Tadzhiks.

The observations on females confirm fully the data obtained on male groups.

Nose. The Mongoloids differ from Europeoids in a number of nasal characters. The nasal bridge of the former is relatively less pronounced and "lower" than that of the latter. The height of the nasal bridge is determined according to a three-grade system: 1, low; 2, medium; and 3, high.

Obviously, as in the judging of other morphological characters, the determination of the nasal bridge height requires a sufficiently observant and experienced investigator, who should have viewed hundreds of subjects; only then will he have developed a sufficiently precise scale for concluding whether a given nasal bridge should be regarded as low, as rather medium, as medium, or as rather high. There must also be an agreement regarding the scales of such determinations among the investigators.

As there were no contradictions in the observations made by Debets, IArkho, Ginzburg, Cheboksarov, Levin and Oshanin, we summarize all the data obtained by these investigators.

Table 7: Nasal Bridge Height

People	Male				Female			
	No.	Min.	Max.	Mean	No.	Min.	Max.	Mean
Kirghiz	2275	1.39	1.74	1.63	118	....	....	1.81
Kazakh	1148	1.49	2.35	1.79	147	1.54	1.69	1.64
Uzbek	3804	1.57	2.31	2.08	201	1.98	2.09	2.01
Turkoman	1910	1.77	2.26	2.09	789	1.95	2.02	2.00
Tadzhik	1951	2.15	2.60	2.30	640	2.08	2.24	2.14

One additional character referring to the morphology of the nose should also be recorded. According to our observations, a further character helpful in differentiating Mongoloids from Europeoids is the position of the lateral walls of the nose [see Rudolf Martin, vol. 1, p. 559, 1928]. Among the Europeoids of Central Asia, the alae usually have a medium slope, sometimes sagittal, that is almost vertical,

while in the Mongoloids they are considerably more sloping, and form a more obtuse angle with the nasal bridge. For the numerical expression of this character, we use the same three-grade system: grade 1, sharply raised lateral walls of the nose in an almost vertical position; grade 2, medium slope; and grade 3, a pronounced slope. The higher the grade in a given group of population, the more slanting are the lateral nasal walls; the lower the average grade, the steeper the position of the walls.

Not all investigators noted this character and published materials differ greatly from our observations in many cases. Therefore, table 8 shows only the average grades obtained by Oshanin or by his co-workers who followed the same scales.

Table 8: Position of Nasal Lateral Walls

People	Male				Female			
	No.	Min.	Max.	Mean	No.	Min.	Max.	Mean
Kirghiz	100	....	....	2.40	118	....	....	2.05
Kazakh	100	....	....	2.28	187	2.15	2.15	2.15
Uzbek	2509	1.69	2.02	1.95	178	1.91	2.01	1.96
Turkoman	1389	1.80	2.01	1.90	789	2.01	2.05	2.03
Tadzhik	533	1.38	2.00	1.83	490	1.53	1.98	1.84

The geographical distribution of the above grades follows the same direction as that of the preceding characters. The most sloping alae occur among the most obvious Mongoloid peoples followed by Kazakhs. Among the Turkic-speaking peoples living south of the Amu Darya, the Uzbeks and Turkomans, the alae are considerably steeper; the Iranian-speaking Tadzhiks exhibit the least incline. In other words, also judging by this character, the migration of the Mongoloids proceeded from the northeast toward the southwest, by-passing the Pamir-Alai Mountains.

In the Introduction it was noted that sometimes clues regarding the diagnostic value of a certain character may be found in the records of early explorers, historians and geographers, who noted in the external appearance of ancient peoples the most striking features which they did not ordinarily see among their own people.

Chinese Annals, relating the history of the Han dynasty (206 B.C. - A.D. 220) record the following characters of the population of Central Asia, beginning with the Ferghana Valley and ending at the boundaries of Iran.

"From Ta-Yüan [Ferghana] westward until An-Hsi [Parthia], even though there be a great difference in the dialects [of the people], [their] language is quite similar, and in conversation [they] understand each other. The inhabitants have in general, sunken eyes and long beards" [60, p. 11].

Thus, ancient Chinese chroniclers noted that all ancient peoples of Central Asia, from Ferghana in the northeast to southern Turkmenia in the southwest, belonged to the same group of related languages which are now bracketed under the name of northern or eastern Iranian languages.

These Chinese Annals also indicate some anthropological traits characteristic of this ancient Iranian-speaking population of Central Asia. Veselovskii, from whom we borrowed the foregoing quotation, remarked about eighty years ago that, "to the beardless Chinese with their protruding eyes, the outward appearance of the inhabi-

tants of the Syr and Amu Darya basins must have seemed strange indeed" [60, p. 11]. The Chinese travelers noted the features which appeared most striking to them, those which were most unusual and distinct from the Mongoloid type, i.e., abundant beard growth and eyes deep-set or "sunken" into the orbital cavities.

Table 5 shows the more abundant hair growth among the modern inhabitants of the Syr Darya and Amu Darya basins, the Uzbeks, Turkomans and Tadzhiks, as compared with the Mongoloid Kirghiz and Kazakhs. The second character noted by the Chinese, the "sunken" eyes, induced us to pay more attention to the position of the eyeball among Mongoloid and Europeoid inhabitants of Central Asia.

Eyes. The position of the eyeballs in the orbital cavities is usually graded by the following system: 1, deep-set or "sunken"; 2, the eyeball occupies an intermediate position; and 3, the eyeball is located even with the surface, "protruding eyes." In other words, the lower the grade, the deeper set is the eyeball of the population being studied; the higher the grade, the more "protruding" appear its eyes. Table 9 shows the data which we, with our co-workers, obtained in regard to the position of the eyeballs in the orbital cavities among the five basic peoples of Central Asia.

Table 9: Eyeball Position

People	Male				Female			
	No.	Min.	Max.	Mean	No.	Min.	Max.	Mean
Kirghiz	172	2.67	2.83	2.72	118	....	....	1.95
Kazakh	100	....	....	2.52	147	1.92	2.0	1.95
Uzbek	2476	1.67	2.14	1.91	201	1.85	2.0	1.92
Turkoman	1434	1.74	2.01	1.84	789	1.88	2.04	1.96
Tadzhik	817	1.45	1.87	1.74	430	1.60	1.96	1.86

Thus, the "anthropological traces" of this character, which have been preserved since the spread of the Mongoloids into Central Asia, in general follows the same direction from the northeast to the southwest. This character is least observed among the Iranian-speaking Tadzhiks of the Pamir-Alai mountain system.

The Mongoloids of Central Asia are distinguished from the Europeoids not only by descriptive characters but also by some metric data. The latter, however, also bring out the differences among the Europeoid races of the second order, which enter into the composition of the Uzbeks and Turkomans. The flat face of the Mongoloids is, at the same time, considerably wider than that of the Europeoids, because of the marked outward protrusion of the zygomatic arches. Malar protrusion, a characteristic Mongoloid trait, is recorded as the bizygomatic breadth (table 10).

Table 10 represents, in millimeters, the minimal (M = min.) and the maximal (M = max.) mean magnitudes of this character, obtained from separate groups living in different regions, as also the mean (M) typical of all investigated males and females in a given people.

The wide bizygomatic breadth, characteristic of the Mongoloids, becomes smaller in the same direction as the other "indices of the degree of Mongoloidness" noted above. In this measurement the Uzbeks are close to the Tadzhiks. The mean magnitudes of the bizygomatic breadth of the Turkomans are smaller than those of the Uzbeks, and even somewhat smaller than those of the Tadzhiks. This is particularly noticeable in the female groups.

Table 10: Bizygomatic Breadth

People	Male				Female			
	No.	Min.	Max.	Mean	No.	Min.	Max.	Mean
Kirghiz	2147	146	150	149	118	....	....	139
Kazakh	1484	146	149	148	289	139	140	138
Uzbek	4253	140	144	142	203	134	138	135
Tadzhik	2069	140	142	141	546	131	136	133
Turkoman	1855	138	143	140	175	128	133	131

Characteristic for the Mongoloids is not only the broad face with protruding malars, but also a total facial height longer than that of Europeoids. It is customary to measure face height, in millimeters, from a point lying somewhat above the deepest point of glabella (at the level of the lower edge of the inside portion of the eyebrows) to a point lying under the chin. This face height is called "the morphological face height."

Table 11: Morphological Face Height

People	Male				Female			
	No.	Min.	Max.	Mean	No.	Min.	Max.	Mean
Kirghiz	2066	130	133	132	118	....	....	118
Kazakh	1478	126	132	129	290	116	121	119
Uzbek	3380	122	132	126	203	115	118	116
Tadzhik	2034	121	129	125	543	117	118	117
Turkoman	1854	126	134	129	575	117	120	119

The average magnitudes of this measurement decrease in the same direction: from the most pronounced Mongoloid (Kirghiz), to the less pronounced (Kazakhs), to the still less Mongoloid (Uzbeks). In this character the Uzbeks are very close to the Europeoid Tadzhiks.

The Turkomans occupy a special position among Turkic-speaking nationalities. According to other characters they are not more Mongoloid than the Uzbeks, but they have a greater facial height. It may be supposed that here entered a Europeoid component of greater total facial height than that which produced the Tadzhiks and Uzbeks.

This character does not expose striking differences in the female groups, something that may be due either to an insufficient number of subjects examined, or to an inaccurate location of nasion.

Absolute magnitudes of the height and breadth of the face do not sufficiently characterize its shape. With the same bizygomatic diameter [breadth] the higher face appears narrower. Therefore, for the determination of the form of the face, it is the accepted practice to use the relationship of these values, the morphological facial index. As a rule the morphological facial height is smaller than the bizygomatic breadth. The morphological facial index is the percentile relation of facial height to the bizygomatic breadth or $\frac{\text{morphological face height} \times 100}{\text{bizygomatic breadth}}$

The lower the facial index, the larger is the relative breadth of the face; the higher the facial index, the narrower the face. The following groups represent a conventional scale of the facial index:

Group	Range
Extremely broad	x - 78.9
Broad	79.0 - 83.9
Medium	84.0 - 87.9
Narrow	88.0 - 92.9
Extremely narrow	93.0 - x

Table 12: Morphological Face Index

People	Male				Female			
	No.	Min.	Max.	Mean	No.	Min.	Max.	Mean
Kirghiz	2075	85.0	89.0	88.4	118	....	....	85.0
Kazakh	1446	86.0	89.0	87.5	91	....	....	84.2
Uzbek	3677	84.0	92.0	88.8	199	85.0	87.0	85.9
Tadzhik	2393	86.0	90.0	88.6	572	86.0	90.0	88.4
Turkoman	1845	89.0	96.7	91.8	374	89.0	92.0	90.0

No significant differences appear among the Mongoloid Kirghiz and Kazakhs, the less Mongolized Uzbeks and the Europeoid Tadzhiks. All belong to the medium average category, tending toward the leptoprosopic. However, the Turkomans are in a separate category; they belong to the typically narrow-faced group, with a tendency to extremely narrow (93.0 - x).

The Mongoloids of Central Asia differ from the Europeoids not only in the greater absolute dimension of the face, but also in the wider head breadth. With regard to these characters, the Turkomans stand out as a separate group.

Head Breadth. This was measured between the extreme points on the sides of the cranium in the parietal region.

Table 13: Head Breadth

People	Male				Female			
	No.	Min.	Max.	Mean	No.	Min.	Max.	Mean
Kirghiz	2055	156	161	160	118	...	...	153
Kazakh	1580	157	160	159	286	151	153	152
Uzbek	4713	152	157	155	204	147	150	149
Tadzhik	2267	152	155	158	673	146	152	148
Turkoman	1856	143	149	147	775	137	143	139

The means reveal the same directional trend as all the other "indices of the Mongoloid characters," declining from the most Mongoloid Kirghiz to the Europeoid Tadzhiks. Once again, the Turkomans stand out separately; they differ markedly from other nations of Central Asia by their narrow heads. In this measurement, the female groups exhibit the same changes as the male groups.

Head Length. This was measured from glabella to opisthocranium. As shown in table 14, the head length tends to become smaller in the same direction, ranging from the Mongoloid Kirghiz to the Europeoid Tadzhiks. The Turkomans also stand separately in this measurement, for they combine the smallest head breadth with the longest head length.

The form of the head as a whole, or, properly speaking, of the cerebral box [calvarium], is defined by the correlation between its length and breadth. A combination of a narrow width with a high longitudinal diameter produces the appearance

of a long head. A combination of a narrow width with a short longitudinal diameter, or of a medium width with a medium length, or of a great width with a great length all result in a shortened, more or less spherical head form. The long and narrow form of cranium bears the name of dolichocephaly (longheadedness); the short and wide form, brachycephaly (shortheadedness). The intermediate forms are termed mesocephaly (middleheadedness), the longitudinal diameter of the head is always longer than the transverse. The percentile relation of the longitudinal diameter to the longitudinal diameter or $\frac{\text{transverse diameter} \times 100}{\text{longitudinal diameter}}$ bears the name of Cephalic Index.

Table 14: Head Length

People	Male				Female			
	No.	Min.	Max.	Mean	No.	Min.	Max.	Mean
Kirghiz	2055	186	189	188	118	...	...	177
Kazakh	1580	184	188	187	286	175	178	176
Uzbek	4716	179	190	183	204	176	179	177
Tadzhik	2259	179	186	183	673	173	174	174
Turkoman	1857	191	196	194	775	182	188	185

Cephalic Index. This is one of the most important indices for the diagnosis of the so-called races of the second order.

Group	Range
Dolichocephalic	x - 75.9
Mesocephalic	76.0 - 80.9
Brachycephalic	81.0 - 85.4
Hyperbrachycephalic	85.5 - x

Table 15: Cephalic Index

People	Male				Female			
	No.	Min.	Max.	Mean	No.	Min.	Max.	Mean
Kirghiz	2050	83	85	84.9	116	..	..	86.0
Kazakh	1520	84	86	85.0	286	86	87	86.0
Uzbek	4716	80	86	84.8	202	82	86	84.3
Tadzhik	2259	80	88	84.5	670	81	87	85.1
Turkoman	1851	73	77	75.6	774	72	77	74.8

The Turkomans are the only dolichocephalic nation in Central Asia, bordering on mesocephaly. According to the cephalic index, there is no difference between the Mongoloid Kirghiz, the intensely Mongolized Kazakhs, the weakly Mongolized Uzbeks and the Europeoid Tadzhiks. They are all markedly brachycephalic with a tendency to hyperbrachycephaly. However, as we have already pointed out, the Mongoloids of Central Asia are sharply distinguished from Europeoids by the absolute dimensions of the head diameters.

Stature. The following categories have been used:

Group	Range
Extremely short	$x - 1490$
Short	1500 - 1590
Below average	1600 - 1640
Average	1650 - 1670
Above average	1680 - 1690
Tall	$1700 - x$

As shown in table 16, there is no difference in stature among the brachycephalic peoples of Central Asia. They all belong in the average height group. The taller Turkomans, who are classified as between above average and tall, form the only dolichocephalic people of Central Asia. Among female groups, this difference is less evident. Nevertheless, Turkoman women are somewhat taller than those in other groups.

Table 16: Stature

People	Male				Female			
	No.	Min.	Max.	Mean	No.	Min.	Max.	Mean
Kirghiz	2049	1640	1670	1650	118	....	....	1510
Kazakh	1417	1640	1660	1650	150	1510	1550	1520
Uzbek	4478	1630	1670	1650	190	1530	1550	1540
Tadzhik	2059	1640	1680	1660	312	1490	1540	1530
Turkoman	1799	1660	1700	1680	749	1540	1560	1550

One of the essential racial-diagnostic characters is so-called "coloring"--the color of the skin, hair and iris. According to the degree of saturation of the iris with dark pigment, we distinguish dark (black, dark brown, brown, light brown), light (light blue, blue, gray) and mixed eyes, in which the dark shades are combined in various degrees with light elements.

Eyes. The eye color is determined by either the Martin or the closely related description according to the Bunak scale. Color of the iris is usually also classified by grades: 1, dark (Martin scale, Nos. 1-5); 2, mixed (Nos. 6-11); and 3, light (Nos. 12-16).

Table 17: Iris Color

People	Male				Female			
	No.	Min.	Max.	Mean	No.	Min.	Max.	Mean
Kirghiz ⁵	1220	1.36	1.45	1.40	118	....	....	1.05
Kazakh	532	1.25	1.39	1.29	147	1.07	1.19	1.15
Uzbek	2721	1.05	1.34	1.17	201	1.06	1.18	1.12
Tadzhik	1943	1.03	1.40	1.28	636	1.10	1.17	1.14
Turkoman	1379	1.04	1.33	1.13	789	1.01	1.17	1.08

Dark eyes are characteristic of all peoples of Central Asia, although with a considerable proportion of mixed eyes; there is an absence or insignificant admixture of light eyes. In this respect there are no differences between Mongoloids and Europeoids of Central Asia. The same admixture of lighter, more or less depigmented, eyes is noted among the Mongoloid Kazakhs as among the Europeoid Tadzhiks.

Even less frequently does one encounter among the population of Central Asia

fair hair and fair (pale-rosy) skin color. All the nationalities exhibit characteristic dark hair and slightly swarthy skin. For this reason, we believe it is not very reliable to make broad, ethnogenetic conclusions on the basis of a greater or smaller admixture of depigmented eyes, as has been not infrequently done in the past in anthropological studies. Understandably, there is no denying the mention, in Chinese and Moslem sources, of blond peoples who once inhabited Central Asia. However, it would be more than risky to see "anthropological traces" of mestization with these blond people wherever one encounters some admixture of mixed eyes. We shall discuss later in greater detail this so-called "blond" or "Dinlin" race which once inhabited Central Asia. At this point we merely state the fact that dark eyes and hair are characteristic for the present day races of Central Asia, Mongoloid as well as Europeoid.

Nasal Measurements and Index. Another essential racial-diagnostic character is the relationship between nasal width, measured between the most distant points of the nostrils, and nasal height, measured from nasion (approximately at the level of the lower edge of inside points of the junction between nasal partition with the upper lip) to subnasale. The percentile relation between nasal breadth and height or $\frac{\text{nasal breadth} \times 100}{\text{nasal width}}$ is called Nasal Index. The lower the Nasal Index, the narrower (relatively), is the nose; the higher the index, the broader, relatively, is the nose. On the basis of the Nasal Index, human races are conventionally divided into the following groups:

Group	Range
Extremely narrow	x - 54.9
Narrow	55.0 - 69.9
Medium	70.0 - 84.9
Wide	85.0 - 99.9
Extremely wide	100.0 - x

Table 18: Nasal Index

People	Male				Female			
	No.	Min.	Max.	Mean	No.	Min.	Max.	Mean
Kirghiz	2092	60	63	61.0	116	..	..	65.0
Kazakh	1482	61	66	63.2	98	..	..	66.0
Uzbek	3868	60	66	62.5	199	62	64	62.9
Turkoman	1497	60	65	61.9	380	60	63	60.4
Tadzhik	2182	59	70	63.9	494	61	65	63.0

In this respect then, there is no difference among Mongoloids (Kazakhs and Kirghiz), Europeoids (Tadzhiks), Mongolized brachycephals (Uzbeks) and dolichocephals (Turkomans) in Central Asia--all of them are typically narrow-nosed [leptorhine].

Conclusions. The geographical distribution of the principal anthropometric characters indicates that in Central Asia one may distinguish three areas each different in the racial composition of its inhabitants:

1. Northern area including the Tien Shan Mountains and the Kazakhstan steppes.
2. Central area between the basins of the Amu Darya and Syr Darya, with the Pamir-Alai Mountains in the southeast and the plains of Uzbekistan in the

northern (Ferghana Valley) and western (Khwarizm Oblast) areas.

3. Southern region, including the Transcaspian steppes.

In regard to racial composition, the Kirghiz, who occupy the northern region, exhibit a marked Mongoloid complex of characters. The Mongoloid features are less pronounced among the Kazakhs, but compared with nationalities living further south, the Mongoloid type is clearly prevalent among them, although in extenuated form.

The Uzbeks, who inhabit the plains between the river basins [Duab] of Central Asia, are closer to the Tadzhiks than to the Kazakhs or Kirghiz. Among the Tadzhiks, the Europeoid complex of characters clearly predominates. This same complex is also dominant among the Uzbeks, but with a considerable admixture of Mongoloid elements.

The Turkomans, who inhabit southern Transcaspia, also exhibit a markedly pronounced Europeoid complex of characters with an admixture of Mongoloid traits similar to those of the Uzbeks. However, the Europeoid type among the Turkomans differs sharply in its dolichocephaly from the brachycephalic Europeoid type that entered into the composition of the Tadzhiks and Uzbeks. As we have seen, the Turkomans are the only dolichocephalic nation in Central Asia. In addition to dolichocephaly, they are distinguished from the inhabitants of the Central Asiatic Interfluvial Region by a higher and relatively narrow face and a taller stature.

The actuality of these racial types, distinguished on the basis of comparative anthropological data collected in varied regions of the three indicated areas, finds full confirmation in those mass observations which we made on living representatives of the peoples of Central Asia during the past thirty years. Wherever the anthropologist may be, on special missions or for other reasons, there pass before his eyes thousands of men, women and children of various tribes and peoples. These mass observations made over a period of many years supplement and geographically define more accurately those special anthropological investigations which were carried out under detailed programs in various regions of three anthropological areas of Central Asia.

The racial types thus isolated have their centers of distribution in the northern, central, and southern parts of Central Asia. Palaeoanthropological data reveal that they were actually formed on the territory of Central Asia--that is, that they are local, autochthonous races.

However, in the anthropological composition of the population of Central Asia, there also participated in varying degrees races whose centers of distribution are located beyond the limits of this area. Peoples which moved from the east, from Inner Asia, contributed admixtures of other Mongoloid races of the second order: those coming from the lands of Iran and the Anterior Asia contributed admixtures of other Europeoid races of the second order.

We shall now discuss briefly the characteristics of the races which we have distinguished among the present population of Central Asia and of some adjacent countries.

III. SOUTH SIBERIAN MONGOLOID RACE

In chapter II we discussed the geographical distribution in Central Asia of Mongoloid traits, which are to some degree characteristic of all Mongoloid races, or, in other words, of the Great Mongoloid Race as a whole. It was noted that the maximum concentration of Mongoloid characters is observed in the northern area of Central Asia as defined by us. This is an indication that the northern area, which includes the broad northern steppe belt of Central Asia and the Tien Shan mountain system, was settled largely by Mongoloids, who even now clearly predominate in the composition of the Kazakhs and Kirghiz. However, as has been pointed out, the Mongoloid Race differentiated into a number of small races or races of the second order.

Mongoloid races of the second order cannot be determined on the basis of Central Asiatic material. For the purposes of determination, it is necessary to have comparative data on other Mongoloid races, whose centers of distribution lie beyond the limits of Central Asia, in the various regions of the vast area of distribution of Mongoloids which embraces Western, Inner, Northern and Eastern Asia.

The late Moscow anthropologist A.I. IArkho conducted extensive and very fruitful investigations among the Turkic-speaking nations of the Sayan-Altai highlands [56] on one side, and among the Turkic-speaking nations of Central Asia, the Kirghiz [54], Kazakhs [51], Uzbeks [55], Turkomans [52] and Kara-Kalpaks [57]. On the basis of this material, IArkho isolated at that time two Mongoloid races of the second order, the South Siberian and the Inner Asiatic. The first is clearly dominant in the composition of the Kirghiz and Kazakhs; the second is encountered only as an admixture.

IArkho considered the Kazakhs [56, p. 125] as particularly typical representatives of the South Siberian Mongoloid type.

The subsequent extensive investigations in Kazakhstan by Debets, Levin, Cheboksarov, Ginzburg and, partly, by Oshanin, confirmed fully the actuality of the South Siberian racial type determined by IArkho.

At the same time, studies conducted in recent years left no doubt that the South Siberian racial type, which is so characteristic of the Kazakhs, is from its origin the result of mestization. It was formed by the mingling of Mongoloid and Europeoid races in the course of many centuries. As a rule, mixed types occupy, in regard to their physical characters, an intermediate position between the original races which produced the mixture. This is indeed the position which the Kazakhs occupy.

As may be seen from tables 4-13, chapter II, the Kazakhs occupy, according to all the basic racial-diagnostic traits, an intermediate position between the more Mongoloid Kirghiz and the more Europeoid Uzbeks. Palaeoanthropological data revealed that historically the population of Kazakhstan was actually formed by two racial components: the ancient indigenous Europeoid; and the later immigrant Mongoloid. In IArkho's opinion, the same South Siberian racial type also predominates among the Kirghiz.

Recent anthropological investigations by Ginzburg [12] showed that the Europeoid racial type was also widespread among the ancient inhabitants of the Tien Shan, although apparently not nearly in the same degree as on the steppes of Kazakhstan. In any case, it is seen from tables 4-13 that the Kirghiz are considerably more Mongoloid than the Kazakhs.

In order to establish a more precise systematic position of the South Siberian

race, it was necessary to have extensive comparative material on other Mongoloid races. Such data were not available to IArkho.

By the present time Moscow anthropologists have conducted extensive investigations of Siberian peoples, which speak languages of various linguistic families--Finno-Ugric, Nentsi ("Samoyed"), Palaeoasiatic, Tungus-Manchurian, Mongolic and Turkic.

We do not know of any nationalities that are "pure" in a racial sense. All nations were formed from various human races. The previously mentioned Siberian peoples, as well as those of Central Asia, were formed historically by the mingling of Europeoid and Mongoloid races. Nevertheless, the Mongoloid element clearly predominates in all peoples of Siberia. It is true that the admixture of Europeoid races is particularly strong among Finno-Ugric peoples of northwestern Siberia, i.e., among the Mansi (Voguls), Khante (Ostyaks), and Nentsi (Samoyeds). Yet it is unlikely that these small nationalities participated to any noticeable extent in the ethnogenesis of the nations of Central Asia. For this reason, we do not include them in the following comparative tables. For the same reason we exclude the small nationalities of the Manchurian branch of the Tungus-Manchurian language family, the Oroki, Negidali (Negidals), Ulchi, Nanais (Goldi or Golds), and the southeastern Palaeoasiatic nationalities, the Ainu and the Nivkhi (Gilyaks), who were investigated by Levin in the Amur lowlands and on Sakhalin Island [22].

The Turkic-speaking tribes of the Sayan-Altai highlands, whom IArkho investigated in detail, differ in their racial composition. From among these tribes, we include only data on the Tuvans (Tuvinians), whom IArkho [56, p. 125], and later Debets [14, p. 71], regarded as the most typical representatives of the Inner Asiatic Mongoloid race. In addition to the Tuvans we included in the comparative tables other nationalities of a marked Mongoloid type. Among them are the Chukchi, and the far northeastern groups of Lamuts and Buryats, the Evenki (Tungus) of the Podkamennaya Tunguska River investigated by Debets [14], the Evenki of the northern Baikal region investigated by Roginskii [42], and the Yakuts of central Yakutia studied by Levin [21].

Mongoloid races of the second order, whose centers of distribution are located beyond the limits of Central Asia, have not yet been adequately studied. The most extensive investigation in this field belongs to Debets [14]. By combining the characters obtained from measurements on living subjects and those obtained from cranio-logical studies, and then "comparing the thus obtained combinations with linguistic and historical-ethnographic data," Debets isolated four Mongoloid groups "united by genetical kinship":

1. Arctic (Chukchi, Eskimos, Aleuts, Koryaks and Itelmen [Kamchadals]).
2. Baikalian (Evenki, Lamuts and a number of ethnic groups living on the lower Amur and on Sakhalin Island).
3. Inner Asiatic (Tuvans, Buryats and Yakuts).
4. Uralian (Finno-Ugric nationalities of northwestern Siberia, and some Turki of the Sayan-Altai highlands).

Debets considers the Arctic group as the Pacific branch of the Great Mongoloid Race, and the Baikalian and Inner Asiatic as the "Continental" branch.

As in other tables, M represents general (weighted) means and magnitudes, M min. and M max. represent minimal and maximal means for separate groups, N represents the number of individuals investigated for a given character.

The results of a comparison of the Kirghiz and Kazakhs with the most typical Mongoloids of Inner and Northeastern Asia on the one hand, and with the Europeoids on the other, are shown in table 19.

Judging from such important racial-diagnostic characters as the Mongoloid fold (No. 1, table 19), beard growth (No. 2), horizontal profile of the middle face or degree of prognathism (No. 3), and morphological facial height (No. 5), the Kirghiz and Kazakhs are much closer to the peoples with a marked Mongoloid type than to the Europeoids of Central Asia. At the same time, as mentioned previously, the Kirghiz are more Mongoloid than the Kazakhs. According to another important racial character, the bizygomatic breadth (No. 4), the Kirghiz and the Kazakhs do not differ from the Inner Asiatic group of nationalities. On the other hand, in head breadth and head length (Nos. 6, 7) the Kirghiz and Kazakhs differ from those of other nationalities with pronounced Mongoloid features. The cranium is considerably wider and shorter, and the cephalic index is correspondingly much higher. According to the cephalic index (84.9-85.0), the Kirghiz and Kazakhs stand on the borderline of ultrabrachycephaly, while the great majority of other Mongoloid nations border on mesocephaly (78-82). There is one exception: a small group of Evenki [Evenks] of the Podkamennaya Tunguska River with a cephalic index of 84.0.

Iarkho regarded the following characters as differentiating the South Siberian and the Inner Asiatic races:

Comparative Table of Descriptive Characters

Character	Inner Asiatic Type	South Siberian Type
Nose	Slightly protruding	Medium protruding
Mongoloid fold	Frequent	Rare
Forehead	Slightly slanted	Very slanted
Supraorbital crest	Poorly developed	Strongly developed
Cephalic index	Mesocephalic	Brachycephalic

Debets noted correctly that it is difficult to differentiate between Inner Asiatic and South Siberian types according to the above characters. One can only state that the Kirghiz and Kazakhs contain a greater admixture of Europeoid components particularly among the Kazakhs as compared with nationalities of Inner and Northeastern Asia.

Let us consider the characters which, in Iarkho's opinion, differentiate the Inner Asiatic from the South Siberian race. The latter is characterized by a rather prominent nose; the degree of nasal protrusion is determined by the height and the transverse profile of the nasal bridge. As may be seen in table 19 (No. 9), the trend in the variations of the height of the nasal bridge or nasal profile corresponds fully to the trend of other characters differentiating Mongoloids from Europeoids. The highest nasal bridge is observed also among the markedly pronounced Europeoids, the Tadzhiks. The nasal bridge is low and below average among the Mongoloids of Inner and Northeastern Asia. In relation to this character, the Kirghiz and the Kazakhs occupy a position intermediate between typical Europeoids and typical Mongoloids.

The nasal profile is graded on the basis of a three-grade scale grouped as follows: 1, flat or flattened; 2, medium; and 3, prominent. Judging from Debets' observations, the transverse nasal profile is more prominent among the Kazakhs and Kirghiz than among Siberian Mongoloids (No. 10). Unfortunately, the determination of this morphological character was evidently subjective. In Debets' observations, the mean grades of this feature among the Kirghiz (2.18) and Kazakhs (2.50) are much higher than in our observations for the Kirghiz (1.40) and the Kazakhs (1.46). Our observations and those of Debets agree only in one point--that the grades of this morphological character are higher among the Kazakhs than among the Kirghiz,

thus indicating the greater admixture of the Europeoid component among the Kazakhs. On the other hand, our observations revealed that the grades are higher among the very pronounced Europeoids--the Tadzhiks--than among Uzbeks who are known, in general, to have a greater admixture of Mongoloid traits. All this confirms the fact that higher grades depend upon an increased Europeoid component.

According to IArkho, the Mongoloid fold (No. 1) is frequently observed among the representatives of the Inner Asiatic race, and seldom among those of the South Siberian race.

At the same time, according to Debets' observations, the Mongoloid fold among the Kirghiz, whom IArkho regarded as the representatives of the South Siberian race, is not less frequent than in a number of Mongoloid nationalities of Inner and Northeastern Asia, the Buryats, Evenki (Evenks) of the Podkamennaya Tunguska River and Chukchi. Among the Kazakhs, the occurrence is reduced by half, indicating again a greater Europeoid admixture. This is also confirmed by observations of the same character among the Uzbeks and Tadzhiks. The very pronounced Europeoids, the Tadzhiks, exhibit an insignificant percentage of occurrence of the Mongoloid fold, while among the Mongoloid Uzbeks the percentage is considerably higher.

In regard to the supraorbital crest (No. 11), it is also difficult to differentiate between the South Siberian race and the Inner Asiatic. Among the Kirghiz and Kazakhs, the eyebrow ridge is not more pronounced than among such representatives of the Inner Asiatic race as the Tuvans, investigated by IArkho, and considerably less than among the Yakuts whom Levin studied. It is difficult to eliminate the subjectivity of various investigators from the data given in table 19. Thus, one would think that in Debets' observation the decrease of the general grade of this character among the Kazakhs depends upon the greater admixture of the Europeoid component. However, this is contradicted by our observations among the Uzbeks and Tadzhiks. Among the pronounced Europeoids, the Tadzhiks, as compared with the Mongoloid Uzbeks, the grades do not decrease but increase.

According to new data, not available to IArkho, the diagnostic significance of the degree of the slope of the forehead (No. 12) is not clear. A marked slope is indicated by grade 1, a medium one by 2, and a small one by 3. In other words, the greater the slope, the lower the average grade; the less the slope, the higher the grade. According to IArkho's scheme, the South Siberian race is characterized by a markedly sloping forehead. At the same time, Debets' observations indicate a medium slope among the Kazakhs and the Kirghiz, with a clear tendency toward a lower degree. Furthermore, observations of various investigators are contradictory. The Kazakhs, examined by Debets, exhibit a lower average than his series of Kirghiz. This could be explained by the greater admixture of the Europeoid component among the Kazakhs. However, this supposition is contradicted by the data collected by our co-workers among the Uzbeks and Tadzhiks. The markedly Europeoid Tadzhiks show a mean grade that is not lower but higher than that of the Mongolized Uzbeks. The data obtained by various investigators for representatives of the Inner Asiatic type are also contradictory. Among the Yakuts (Levin) the average grade is considerably lower than among the Buryats (Debets) and among the Tuvans (IArkho).

The stature (No. 13) and the eye color (No. 14) are also not dependable for the differentiation of the races of Central, Inner and Northeastern Asia. The Kirghiz and the Kazakhs show a tendency toward a higher stature as compared with other Mongoloid peoples. It is possible that this may be ascribed to a greater admixture of Central Asiatic Europeoids. However, this question requires further investigation, since differences in this character between Tadzhiks and Uzbeks are not present, and the differences between the Mongoloid Kazakhs and Kirghiz and the Europeoid Tadzhiks are very insignificant. Among the nationalities of Central Asia, the

greatest degree of depigmentation of the iris is noted among the Kirghiz. The Kazakhs are close to the Tadzhiks and among the Mongoloids of Inner and Northeastern Asia, this character varies greatly, from 1.06 among the coastal Chukchi to 1.44 among the Lamuts.

The most realistic distinction between the Mongoloids of Central Asia and those of Inner and Northeastern Asia remains the cephalic index and the head diameters which produce this index.

The above-mentioned comparisons of Mongoloids of Central Asia with Mongoloids of Inner and Northeastern Asia show that it is not yet possible to determine which Mongoloid races of the second order entered into the composition of the Kazakhs and Kirghiz. The classification of Mongoloid races of the second order, their morphological characters, the exact determination of the places of their formation, of their initial and present areas of distribution, and the processes of their migrations and mestizations have not yet been studied adequately.

As already mentioned, palaeoanthropological data indicate that in Kirghizia and Kazakhstan the Europeoid type preceded the Mongoloid. In the course of centuries, successive strata of various representatives of the Mongoloid Race resulted in Mongolization of the original type of the ancient inhabitants of these countries. The only incontestable fact is that among the present Kirghiz and Kazakhs, Mongoloid characters are clearly dominant. This is also confirmed by the general impression of the appearance of the Kirghiz and Kazakhs. Their Mongoloid features are evident to everyone who has had an opportunity to observe the nations of Central Asia.

For this reason, the inclusion of the Kirghiz and Kazakhs among the peoples which belong to the Great Mongoloid Race is fully justified.

The founder of the first scientific classification of human races, the Russian anthropologist Iosif Egorovich Deniker, who lived and worked in France, noted more than half a century ago the difference between the Kirghiz and Kazakhs and other Mongoloid peoples. Deniker called their specific type the "Turanian race" [78, p. 367].

Iarkho furnished a much more complete description of this type, and called it the "South Siberian race," which he included as a race of the second order in the scope of the Great Mongoloid Race. Inasmuch as the northern boundary of Kazakhstan runs along the upper courses of such Siberian rivers as the Tobol, Ishim, Irtysh and the tributaries of the Upper Ob, the term suggested by Iarkho is much more suitable than the geographically vague term given by Deniker. In our opinion, an attempt to establish among the population of Central Asia some other Mongoloid races of the second order, in addition to the South Siberian race, is hardly reliable.

The South Siberian Mongoloid race possesses the following characters: straight, stiff, black hair; dark eyes with a considerable admixture of mixed color (grade 1.29 - 1.40); tertiary hair cover (beard) poorly developed (1.73 - 1.97); flat, horizontal facial profile (1.22 - 1.33); morphological facial height (130 - 132) and very wide bizygomatic breadth (148 - 149); head of medium length (187 - 188) but very wide (159 - 160); very pronounced brachycephaly (84 - 85); medium stature (1650); height of nasal bridge below medium (1.63 - 1.79); position of alae flat (2.28 - 2.40); and frequent incidence of the Mongoloid fold (22.5 - 54.1 per cent).

As pointed out by Iarkho, further investigation is needed on the question as to what extent such characters as a strongly developed supraorbital crest and markedly sloping forehead are specific.

The recent extensive and quite fruitful investigations conducted in Kirghizia and Kazakhstan under the leadership of Debets revealed without doubt that a stronger Mongoloid component entered into the composition of the Kirghiz than of the Kazakhs.

As it has been already pointed out on the basis of all characters, the Kirghiz are more Mongoloid than the Kazakhs.

In consonance with this, the South Siberian racial type may be subdivided into two subtypes: (a) the more Mongoloid southeastern, with its center of distribution in the Tien Shan Mountains; and (b) less Mongoloid, northwestern, whose area of distribution occupies the whole broad steppe belt of Central Asia, and extends continuously into the steppes of the Western Siberian lowlands.

During the Middle Ages, the entire territory occupied at present by the South Siberian race with its two variants, a northwestern and a southeastern, was called the Dasht-i-Kipchak and Mogulistan. These names became established during the era of domination of the Kipchaks (Polovtsi of the Russian chroniclers) and the Mongolian tribes. Semenov includes in the Dasht-i-Kipchak the steppes which extend west of the longitude on which Lake Balkhash is located, and in Mogulistan, the region that lies east of the lake. The latter name reflects to some degree the greater distribution of Mongoloid traits in the southeastern area, and the designation Mogulistan--the country of the Mongols--is apparently not accidental.

IV. EUROPEOID RACES OF CENTRAL ASIA AND OF ADJACENT COUNTRIES OF IRAN AND THE NEAR EAST

1. Brachycephalic Race of Central Asiatic Interfluvial Region

The racial composition of the population changes radically south of the Syr Darya, in what is now Uzbekistan and Tadzhikistan. The tables in chapter II show that the Uzbeks and Tadzhiks, as compared with the Kirghiz and Kazakhs, exhibit a lower percentage of occurrence of the Mongoloid fold, more abundant facial hair, a less flattened horizontal facial profile, a higher nasal root, less sloping alae, the eyeballs set deeper in the orbital cavities, and smaller longitudinal and transverse diameters of head and face. The racial-diagnostic significance of these characters has been pointed out in chapter II. Judging from the geographic distribution of these characters, the predominant component in Uzbekistan and Tadzhikistan in contrast to Kirghizia and Kazakhstan, is not the Mongoloid but the Europeoid component. As shown in tables 4-12, and table 19, the Uzbeks have a considerably greater admixture of Mongoloid traits than the Tadzhiks; however, there also prevails in their composition the characteristics of the Europeoid type. This Europeoid type, most clearly expressed among the Tadzhiks, exhibits the following: dark eyes with a considerable element of mixed (1.28); black hair; beard medium and heavier than medium (3.15); horizontal facial profile not flattened (2.20); face of medium breadth (141) and height (125); head fairly broad (153) and short (183); height of nasal bridge above medium (2.30); a slightly inclined position of the alae (1.83); and the eyeballs set fairly deep in the orbital cavities (1.74). The Tadzhiks are at the maximum range of brachycephaly (84.5), typically leptoprosopic (88.6), leptorrhine (73.9), and are of average stature (1660).

The same complex prevails among the Uzbeks although, as previously noted, with a greater admixture of Mongoloid traits.

The Europeoid type which is characteristic of the Uzbeks and Tadzhiks is shown in photographs Nos. 3 and 4.

Because of the very widespread distribution of this type on the plains between the basins of the Amu Darya and Syr Darya, and equally in the upper courses of these rivers, in the Pamir-Alai mountain region, this type is designated as the "Central Asiatic Interfluvial race."

I Arkho isolated on the basis of his own extensive investigations the same Europeoid type in Uzbekistan, but called it the "Pamir-Ferghana race."

In our opinion, this is a less suitable term because it includes only an insignificant part of the actual center of distribution of the given type, i.e., the Ferghana Valley and the lands adjacent to the Pamir range. Subsequent extensive investigations conducted in various towns and settlements of diverse areas and regions of Uzbekistan and Tadzhikistan showed that the basic complex of characters for the given racial type is widely distributed throughout the entire Central Asiatic Interfluvial Region, on the headwaters of the Amu Darya and Syr Darya in the Pamir-Altai Mountains, as well as on the plains between the middle and lower courses of those rivers. Both terms, the "Pamir-Ferghana race" and the "Central Asiatic Interfluvial race," are accepted in Soviet Anthropology and are used as synonyms.

Within the Central Asiatic Interfluvial race, there may be distinguished three variants of subtypes:

1. Mountain variant, to which belong the highland Tadzhiks, who are the most typical and marked representatives of the Central Asiatic Interfluvial race.
2. Pamir Region variant, which includes the small Iranian-speaking tribes of the southwestern Pamir areas: Rushan, Shugnan and Vakhn. This subtype is closely related to that of the highland Tadzhiks, but is distinguished from it by some characters which resemble those of the so-called Anterior Asian race. We shall discuss these differences later.
3. Plains variant, widely distributed among the Uzbeks in all Uzbekistan, from Khwarizm in the west to the Ferghana Valley in the east, from the Tashkent Oblast in the north to the Surkhan Darya Oblast in the south. This variant is also close to the highland subtype, but is distinguished from it by a considerable admixture of Mongoloid traits. These, as we shall see, reflect differences in ethnogenetic processes that took place on the plains and in the mountains.

The present area of distribution of the Central Asiatic Interfluvial race, however, is by no means restricted to the limits of Tadzhikistan and Uzbekistan. Examinations we made among the Uigurs who migrated to Central Asia from Sinkiang showed that this same race is also the basic racial type of the Uigurs. These, who constitute 80.0 per cent of the original inhabitants of Sinkiang, do not differ in any anthropometric characters from the Uzbeks [36]. In other words, they belong to the third subtype of the Central Asiatic Interfluvial race, to that of the plains.

The late D. D. Bukinich studied the Tadzhiks, who live in northern Afghanistan on both sides of the Hindu Kush and constitute a very considerable part of the heterogeneous population of that country. There are about 2.1 million Tadzhiks in Afghanistan--about 20.0 per cent of the total population. Bukinich's investigations showed that the Afghan Tadzhiks do not differ in any of the main characters from the Tadzhiks of the southern parts of Tadzhikistan [35, pp. 51-53]. In other words, they belong to the first, or mountain subtype, of the Central Asiatic Interfluvial race.

As an illustration of the similarity between the Uigurs and the Uzbeks, and that between the Tadzhiks of southern Tadzhikistan and the Tadzhiks of northern Afghanistan, we offer comparative anthropological tables. In tables 20-21 are given data obtained for various territorial groups, in tables 22-23 the general, minimum and maximum means and magnitudes of combined groups investigated in the same general areas. Unfortunately, Bukinich succeeded in recording only four qualitative and two quantitative characters, the head length and breadth. The Tadzhiks of Afghanistan differ markedly from the Mongoloid Kirghiz of the Semirechye region (tables 22-23) by the absence of the Mongoloid fold, a heavier than average beard, a somewhat above average height of the nasal bridge, and by the basic head diameters. In general, they appear to be typical representatives of the Europeoid race of the Central Asiatic Interfluvial Region. The Tadzhiks of southern Tadzhikistan differ even more sharply from the Kirghiz. It must be noted that historically northern Afghanistan and southern Tadzhikistan were once combined in ancient Bactria.

On the other hand, the Uigurs of the Semirechye region, and particularly the Uigurs of the Ferghana Valley, do not differ in any way from the Ferghana Uzbeks among whom live the Ferghana Uigurs. Like the Uzbeks, the Uigurs are related to the same Europeoid race of the Central Asiatic Interfluvial Region, but with a noticeable admixture of Mongoloid traits. Nevertheless, as to the degree of Mongoloid features, both the Uigurs and the Uzbeks differ clearly from the typically Mongoloid Kirghiz. The as yet scanty palaeoanthropological data, and those of history and linguistics, show that the Uigurs absorbed the features of the Europeoid race of

the Central Asiatic Interfluvial Region not on the territory of Central Asia, but in Sinkiang. One of our previously published works [36] was devoted especially to this question. Thus, the ancient area of distribution of the brachycephalic Europeoid race was not on the Central Asiatic Interfluvial Region (Mezhdureche) but also Sinkiang or at least its southern half, the Kashgar region. In Kashgaria as well as in the Central Asiatic Interfluvial Region, the admixture of Mongoloid elements was provided by successive strata of Mongoloid tribes [36].

On the basis of comparative anthropological investigations, historical reports concerning the types of ancient populations, and historical information on the successive settling of Central Asia by various nations, we have long held that the Central Asiatic Interfluvial race is autochthonous, and that it was here within Central Asia.

This point of view was fully confirmed by the latest palaeoanthropological investigations conducted in Uzbekistan and Tadzhikistan by Ginzburg [5, 7, 9] and by Zzenkova [17] of the State University of Central Asia (SAGU).

The oldest skeletal remains of the Central Asiatic Interfluvial race, found within the limits of Sogdiana and Bactria, date from the third millennium B.C. [17]. It is thus evident that this race formed a part of the oldest civilized peoples of Central Asia, the Sogdians and Bactrians. Inasmuch as the same racial type clearly predominates in the modern population of Uzbekistan and Tadzhikistan, we have every reason to consider the Uzbeks and Tadzhiks as the descendants of the above-mentioned oldest civilized peoples of Central Asia.

2. Europeoid Dolichocephalic Transcaspian Race

South of the Amu Darya, on the steppes of Transcaspia, the racial composition changes.

As we have seen, the brachycephalic Europeoid race predominates on the plains of the Central Asiatic Interfluvial Region, now inhabited by the Uzbeks. On the Transcaspian steppes, where the Turkomans live, the Europeoid Race also clearly predominates. The Turkomans, however, differ markedly from the Central Asiatic Interfluvial race as to head length and breadth and the cephalic index.

The Central Asiatic Interfluvial race is characterized by a marked brachycephaly, while the Transcaspian race is clearly dolicho-mesocephalic. In addition, the Turkomans are taller and more leptoprosopic than the Uzbeks. The latter is evident in comparing total facial height and facial index.

Both Europeoid races of Central Asia were Mongolized; there is no difference between them in the degree of Mongolization. According to all the characters that distinguish Europeoids from Mongoloids, the Turkomans and Uzbeks are completely similar.

We refer to the similarities and differences indicated in chapter II. In tables 24-25 we give the means (M) and the number of subjects (N) studied for the most significant characters that distinguish the Mongoloids and the Europeoids and indicate the same degree of Mongolization of both the Europeoids of the Central Asiatic Interfluvial Region and those of Transcaspia, and also the characters that show the difference between them.

In their dolichocephaly, the Turkomans differ sharply not only from the Uzbeks but also from all other nationalities of Central Asia (tables 13-15).

As shown in table 26, the dolicho-mesocephalic with a long and narrow head is characteristic for all Turkoman tribes in each area. The question arises as to whether or not we can consider the dolichocephaly, which is so characteristic for the Turkomans and which distinguishes them sharply from all other nationalities of Central Asia, to be a racial, inborn feature. Is it not an artificial dolichocephaly

produced by artificial cranial deformation practised by some Turkoman tribes?

This question was raised in anthropological literature by us, and later by Levin [20]. Inasmuch as this question is of primary importance for the systematics of Central Asiatic races as well as for the problem of the ethnogenesis of the Turkomans, we shall discuss it in greater detail.

In one of my earliest anthropological works [25], I noted that observations made at my request in 1926 among the Ersari tribe of the Kelife region by two students, Maslova and Fokina, of the State University of Central Asia (SAGU) revealed that the Turkomans of this tribe always bind their children's heads tightly with a kerchief, for the purpose, as they said, of achieving a more elongated form of the head.

Later, in 1929, I had the opportunity to observe this custom myself in another area--among the Teke tribe of the Mary [Merv] region. The same custom was also observed by Levin in 1942 among the Teke tribe in Ashkhabad and in 1951 by Nadzhimov among the Ersari in the vicinity of Termez.

In all cases the bandage was applied in the same manner: the center of the diagonally folded kerchief was placed on the forehead, and the tightly drawn knot below the most pronounced point of the occiput (opisthocranion).

It seems to us that such bandaging may result in an elongation of the cranium, at the expense of the unbandaged part of the occiput which, without the pressure, remains free to protrude. Among adult Turkomans this feature is very evident. Such artificial cranial deformation is also indicated by the markedly sloping foreheads that occur frequently among the Turkomans.

When questioned about the reason for such a custom, the Turkomans gave me a fully definite answer. They said that the Turkomans have, in general, an elongated shape of the head, and that they try to emphasize this feature in order that they would not be confused with other nationalities. The longer the head, the "purer" the Turkoman and the clearer his relation "by blood" to the Turkoman people.

The elongated form of the head is actually so characteristic of the Turkomans and distinguishes them to such an extent from all the brachycephalic nationalities of Central Asia, that it will attract the attention of every observer. As early as a thousand years ago, the population of Persia and Mawerannahr recognized the ancestors of the Turkomans, the Ghuzes, by the elongated shape of their heads, and sold them into slavery on the basis of this character [24].

In 1923, at a time when no anthropometric data were available on the Turkomans, this fact served us as a key for the proper understanding of their ethnogenesis. We shall dwell on this question further in a chapter devoted to the ethnogenesis of the Turkoman people. A significant modern-day event was reported by a person who witnessed the siege of Khiva by the Basmach [insurgents] during the winter of 1923. Participating with the Basmach in the siege of Khiva were Uzbeks who had joined the Turkoman-Yomuds. When the Basmach were taken prisoner, those with elongated heads were, without further question, considered Turkoman-Yomuds, and those with short heads were listed as Uzbeks.

In general, the custom of emphasizing some racial character is quite widespread. Darwin, also, mentioned some facts in this connection [77].

In 1942, however, the Turkomans explained this custom to Levin from another viewpoint--that of health; they said that the infants' heads had to be protected from a chill. Yet ethnography records many customs whose original significance have become lost. In our epoch of radical reconstruction of all customs, such a loss of "ethnographic memory" occurs very rapidly.

We believe that the dolichocephaly of the Turkomans is a racial or inborn characteristic, and that the bandaging of the heads of newborn infants is their attempt to underline or emphasize this feature as proof of their "blood" relationship with the

Turkoman people. This conviction is based on the following considerations:

1. The custom of bandaging the heads of newborn infants is not practised by all Turkomans, and in some tribes it is not employed at all (Oshanin, 1929); nevertheless, they are always distinguished by a pronounced dolichocephaly.

(a) During his expedition to Khwarizm in 1936, IArkho instructed his associates, Libman and Iomudskaia, to investigate carefully the question of whether or not the dolichocephaly of the Turkomans of the Khiva Oasis resulted from artificial cranial deformation. This study revealed that: "The felt cap placed on the heads of nursing babies cannot mechanically produce dolichocephalic changes of the cranium; a specifically elongated form of head was noted among children as well as among adults" [52, p. 82].

Unfortunately, IArkho did not report what this "cap" looked like or how it was used. In any case, it is not the diagonally folded kerchief, tightly bound under the occiput, but a kind of flat, felt cap which cannot mechanically produce elongation of the skull. Nevertheless, Turkomans whom IArkho investigated were not brachycephalic, but markedly dolichocephalic (Yomuti[Yomud] tribe, 75.1) or mesocephalic (Chaudyrs, 77.2).

(b) In 1929 we encountered the custom of bandaging the heads of infants among the Iomuds of Kara Kum in the vicinity of Kazandzhik. However, the Yomuds neither folded the kerchief diagonally nor tied it tightly below the most pronounced occipital point (opisthocranium). They placed a kerchief on the infant's head without tying it tightly, and this certainly cannot cause an increase in head breadth. Nevertheless, the Yomuds of Kazandzhik possess a large head length (194) and a small head breadth (149), with a cephalic index of 76.0.

(c) The Goklen tribe of the Kara-Kala region also studied in 1929, do not, according to their own statement, bandage the heads of newborn infants. Nevertheless, they are typical dolichocephals (GOL 193, GB 147, CI 75.8).

2. IArkho pointed out that artificial elongation of the head would disturb the correlation between the head length and breadth. He stressed the fact that among the Turkomans he could not observe any distortion of the correlation. The coefficient of correlation remained positive (Yomuds, ± 0.360). A similar result was observed on the Teke Turkomans, who bandaged the heads of their infants in the manner mentioned above. Here the coefficient of correlation was ± 0.327 ; among the Iomuds, who bandage the heads of infants lightly, it is ± 0.454 and among the Goklen, who do not use bandages at all, it is ± 0.440 .

3. The data in table 22 show that the cephalic index and corresponding measurements vary within narrow limits among the various local groups of the Turkomans. It is unlikely that the above characters, which are possessed by the most different tribal groups of the Turkomans--characters that repeat themselves in different localities of the extensive territory of present-day Turkmenia--were produced by artificial dolichocephaly. Furthermore, Turkmenia is merely a part of the vast area inhabited by dolichocephalic Europeoids, which extends far to the east through Afghanistan into northern India.

4. Palaeoanthropological data obtained in recent years by the Southern Turkmenia Archaeological Expedition, under the leadership of Masson, indicate that the ancient population of Turkmenia belonged undoubtedly to the dolichocephalic Europeoid type. These data are attributed to the second millennium B.C. There is no sign of any artificial cranial deformation of either children or adults [34].

For all these reasons, then, there is no doubt that the dolichocephaly, which is so characteristic of the Turkomans, is a racial character and not the result of artificial cranial deformation. The custom among some Turkomans of bandaging the heads of newborn infants is an attempt to stress this racial peculiarity.

The scanty but interesting and significant material collected by Levin in Ashkhabad among Teke children indicates that bandaging as described above may cause an increase in the head length and a corresponding reduction in the cephalic index [20]. On the other hand, there is no difference between the Teke of Mary [Merv], whom we studied, and who bandage the heads of infants and the Kara-Kala Goklen, who do not observe this custom. Both are markedly dolichocephalic (Teke, 74.4; Goklen, 75.8).

Photographs 5 and 6 show the type of the dolichocephalic Europeoid Race which clearly predominates among the Turkomans.

This racial type was identified by IArkho [52] and by us [35] among various Turkoman tribes. Our investigations were made independently of each other among many tribes, in different years and in different oblasts and raions of Turkmenia. This confirms the validity of the racial type which we isolated.

However, the question of its systematic position among other Europeoid types cannot yet be considered solved.

Among Soviet anthropologists it is customary to use the term "Mediterranean Race" in a broad sense. It includes diverse local variants of the Europeoid dolichocephalic, brunet type which is spread over the vast area from the islands and peninsulas of the Mediterranean in the west to the northern part of India in the east, including all northern Mediterranean parts of Africa, Arabia, part of Iran, the Transcaspian steppes and central Afghanistan.

Geographically, the "Mediterranean Race" may be subdivided into several local types or races of the third order, which include:

1. Iberian-Insular race, described by Deniker more than half a century ago. This short, dolichocephalic, brunet race has as its center of distribution the Pyrenean Peninsula, the southern half of the Apennine Peninsula and the islands of the Mediterranean.
2. North African race, tall, dolichocephalic and brunet. The typical representatives are the Rifs of Morocco, described by Coon [76].
3. Arab [Arabian] race, with a stature below average, dolichocephalic and brunet; widespread among the Arabs of the Arabian Peninsula. This type was identified by Eugen Fischer as the "Eastern race" [80, pp. 171-73].
4. Indo-Afghan race, tall, dolichocephalic and brunet; identified and described by Deniker. It is very widespread among the Indo-Aryan tribes of northern India and among the tribes of central Afghanistan [79].

IArkho related the Turkomans to the Arab variant of the Mediterranean Race, described by Fischer as the "Eastern race."

In the classification later suggested by Cheboksarov [46, p. 315 et seq.], the Europeoid type of the Turkomans is placed in the class of all dark, southern Europeoids, whom he combines as a Europeoid race of the second order under the designation "Southern Europeoid" or "Indo-Mediterranean" race.

This race is divided by Cheboksarov into three types: (a) western, Mediterranean-Balkan, including peoples of southern Europe and northern Africa; (b) central, Anterior Asian, including peoples of Anterior Asia and (c) eastern, Indo-Pamir, including peoples of Central Asia, Iran, Afghanistan, and the northern part of India.

Cheboksarov stresses the point that in his classification he does not take into consideration the cephalic index which, in his opinion, should be taken into account

only in more detailed classifications for the characterization of "local types," forming a part of the three geographical groups which he had identified. However, dolichocephaly is the basic feature of the "Mediterranean Race in a broad sense." For this reason, it does not include such well-investigated and long-known brachycephalic Europeoids as the following: (a) Adriatic or Dinaric race, which had its center in the Dinaric Alps, the entire eastern coast of the Adriatic Sea, and a considerable part of the Balkan Peninsula; (b) Anterior Asian race, which is widespread in the northern part of Anterior Asia: in Asia Minor, Transcaucasia and Mesopotamia, but not in the Arabian Peninsula; and (c) Central Asiatic Interfluvial race, which we have already isolated.

These three brachycephalic races, together with the dolichocephalic races, are included by Cheboksarov in the composition of the "Indo-Mediterranean race" as races of the second order.

In our opinion, it is too early to identify the clearly separated racial types of Central Asia with other well-known Europeoid and Mongoloid races, fragmenting the latter into races of the second and third degree and into "local types."

We consider the final goal of every scientific classification, namely, the establishment of genetic relationships among the various territorial types of Europeoids, and equally of Mongoloids, to be the work of the future. Firstly, adequate palaeo-anthropological data for the genetic classification of systematic categories smaller than the three basic Great Races, the Europeoid, Mongoloid and Negroid, are not yet available. In comparisons based on the anthropometry of the living, difficulties arise from the necessity of using data collected by different investigators at different times with different programs [systems of recording data]. This is particularly true in the determination of descriptive characters which, in the classification of races are indubitably not less, but sometimes even more important than metric data. If we encounter difficulties in comparing descriptive characters recorded by Soviet anthropologists, then only our metric data are directly comparable with those of foreign physical anthropologists.

It seems to us that in the present stage of our knowledge, it is sufficient to limit ourselves to substantive facts: the presence of several distinguishing characters, in particular, the cephalic index and head measurements; and the presence of a definite area or center of distribution where these characters are concentrated in contradistinction to neighboring areas that are the centers of distribution of other characters. If one takes, in addition, palaeo-anthropological data that bear witness to the remote antiquity of a given complex of characters on a given territory, which is a direct proof of genetic succession, then we have every reason to speak of a racial type, calling it a minor race or a race of the second order, as being a component part of the Europeoid or Great Mongoloid races. This is actually the case with the brachycephalic race of the Central Asiatic Interfluvial Region, which can be traced in its center of distribution back to the third millennium B.C. It is also the case with dolichocephalic Europeoid type, widespread throughout Turkmenia, where it can be traced back to the second millennium B.C. We suggested calling this the Transcaspian race, after its center of distribution.

In regard to the genetic relationship of the Transcaspian race with other dolichocephalic Europeoid races, it seems to us that the possibility of relating it to the geographically distant "Eastern race" of Fischer, with which I Arkho identified it, has no basis. According to Fischer, the center of distribution of his "Eastern race" was the Arabian Peninsula.

The relationship of the Transcaspian race with the adjacent Indo-Afghan race in the east is more probable. The designation of the latter was widely accepted long ago as that of the easternmost group of Europeoid dolichocephals who inhabit Afghanistan and northern India.

As shown in table 27, the cephalic index and the head dimensions vary within very narrow limits on the vast territory from the Caspian Sea to the northeastern part of India. Various authors contributed the anthropometric data for India. The figures for western, central and eastern Afghanistan were obtained by Bukinich [35, pp. 51-53]. Unfortunately, because of lack of data collected in accordance with "programs of the same type" [comparable methodology], it is impossible to compare the dolichocephalic peoples of Afghanistan and India according to other characters. However, their place in the Great Europeoid Race is beyond doubt and it is generally acknowledged. We feel that it is quite probable that further investigations, which will be conducted in accordance with the unified method, adapted by Soviet Anthropology, will permit the identification of the Transcaspian with the Indo-Afghan race.

Even on the basis of data available, the presence of a vast stratum of dolichocephalic Europeoids, extending from the shores of the Caspian Sea to northeastern India, is indisputable. This stratum is associated with the countries situated south of the Amu Darya and Hindu Kush, while north of it, from the shores of the Aral Sea to the region of Sinkiang, extends the stratum of brachycephalic Europeoids, whom we have identified as the Central Asiatic Interfluvial race.

The historical connection of Afghanistan with all Central Asia, and particularly Turkmenia, is also well-known.

Linguistically, the ancient tribes in modern Turkmenia were closely related to the tribes of Afghanistan and northern India. In the opinion of the majority of scholars, the ancient tribes of the Transcaspian region, frequently referred to as the Scytho-Sarmatian tribes, spoke languages of the Iranian branch of the Indo-European linguistic family. This linguistic affinity was also attributed to them in the page proofs of the "History of the USSR," issued in 1939 by the Academy of Sciences as a manuscript copy [67, pp. 182-85]. Finally, the significant discoveries of the Masson Archaeological Expeditions furnished rich linguistic material testifying that the Parthians, who inhabited the southern part of Turkmenia, spoke an Iranian language [64 and 72]. The majority of the peoples of Afghanistan also speak Iranian [Farsi], which is now the official language.

The languages of northern India are grouped under the Indian branch of the Indo-European linguistic family.

According to morphology and vocabulary, the Iranian and Indian languages are combined in one group as the so-called "Aryan languages."

The stratum of dolichocephalic Europeoids preserved the Indic languages in the east, and the Iranian in the center. However, in the west, in Turkmenia, this originally Iranian-speaking stratum became Turkized by successive accretions of Turki tribes. The tribes also brought with them an admixture of Mongoloid characters to the ancient dolichocephalic Europeoid population of the Transcaspian region.

On the basis of palaeoanthropological data and historical evidence, then, we consider the Transcaspian race, which we identified as local and autochthonous, to be one that developed on the Transcaspian steppes.

Thus, from the anthropological point of view, the Turkomans appear to be the descendants of the Scytho-Sarmatian tribes of Transcaspia. This question will be discussed in the chapter devoted to the ethnogenesis of the Turkomans.

In addition to the two local Europeoid races, the brachycephalic of the Central Asiatic Interfluvial Region and the dolichocephalic of Transcaspia, Europeoid races whose elements migrated into Central Asia from adjacent countries participated in the racial composition of the population of Central Asia in various degrees. Particularly well known since ancient times are the close historical relations of the peoples of Central Asia with those of Iran and Anterior Asia. For this reason, we investigated groups which migrated from these two countries into Central Asia.

To these groups belong the Persians, who recently migrated from Khurasan, and Azerbaijanis from Iranian Azerbaijan, among whom I collected some preliminary material in Ashkhabad as well as on the Jews who live in various towns of Central Asia. The Jews, who migrated about a thousand years ago, live separately and do not mix with the local Moslems. The Persians and Azerbaijanis exhibit a markedly pronounced dolichocephalic Europeoid racial type, but one that differs from the Transcaspian. We have called this type the Khurasan race, after its present center of distribution in the northern province of Iran.

The Central Asiatic Jews exhibit a markedly pronounced brachycephalic Europeoid type, but nevertheless one different from the brachycephalic Europeoids of the Central Asiatic Interfluvial Region. This type proved to be identical with the Asia Anterior race which has long been known in Anthropology.

3. Brachycephalic Anterior Asia (Armenoid) Race

The countries of the northern part of Anterior Asia, namely Asia Minor [Anatolia], Transcaucasia and Mesopotamia [Iraq] are the center of distribution of a particular characteristic Europeoid racial type which has long been designated in Anthropology as the Asia Anterior race. Inasmuch as this type is very markedly pronounced among the Armenians of Transcaucasia, the Anterior Asia race is frequently called the Armenoid race, which is widely distributed not only among Armenians, but also among various nationalities and tribes of Anterior Asia inhabiting the area from the Black Sea shores of Asia Minor to the Zagros Mountains bordering the Iranian Plateau. For this reason, Bunak suggested calling this race the Pontic-Zagrossian. All these terms, accepted by Soviet physical anthropologists, are used as synonyms.

On the other hand, the brachycephalic Europeoids of Anterior and Central Asia represent merely the eastern links of that brachycephalic Europeoid stratum, which extends uninterruptedly through Eurasia in a latitudinal direction and generally appears in the greatest purity along the mountain folds of the Alps, Carpathians, Dinaric Alps, Balkan Mountains, and the tableland and mountain ranges of Asia Minor and Armenia, terminating in the Pamir-Alai Mountains. Furthermore, the brachycephalic Europeoids are widely distributed to the north and partly to the south of these mountain complexes and in Central Asia they inhabit the plains of the Central Asiatic Interfluvial Region far to the west of the Pamir-Alai Mountains.

South of the area of the brachycephalic Europeoids extends the area of the dolichocephalic Europeoids, which includes the peninsulas and islands of the Mediterranean, the northern Mediterranean part of Africa, Arabia, part of Iran, central Afghanistan and the northern part of India. This stratum of dolichocephalic Europeoids was referred to in Soviet literature until recently as the "Mediterranean Race in a broad sense." In Cheboksarov's latest classification, both of these elements, the dolichocephalic and brachycephalic Europeoids, are combined under the term Southern Europeoid or Indo-Mediterranean race.

However, in Western European anthropological literature, the cephalic index continues to be regarded as one of the most important anthropological criteria, and is always taken into account in the classifications of human races. Insofar as we Soviet anthropologists have to compare our materials with those of foreign writers, the same classifications which have long been adopted by foreign anthropologists must be taken into account to some extent.

In particular, it has long been the custom to subdivide the brachycephalic Europeoids of Eurasia into a number of Europeoid races, which were named according to their centers of distribution: Alpine race, with its center in the mountain system of the Alps; Dinaric or Adriatic race, with its center in the Dinaric Alps

along the eastern shores of the Adriatic Sea; and the Asia Anterior race, with its center in the northern part of Anterior Asia. Inasmuch as the Dinaric race exhibits a definite similarity to the Asia Anterior race, some anthropologists consider it the western branch of the Asia Anterior race. The question naturally arose, whether the Central Asiatic Interfluvial race isolated by Oshanin is not merely the extreme eastern branch of the same Asia Anterior race.

For the solution of this problem it was necessary to compare the brachycephalic Europeoids of Central Asia with those of the Anterior Asia.

The classical type of the Anterior Asian (Armenoid) race is clearly expressed in the Jews of Central Asia, who live in separate quarters, which before the Revolution were a type of ghetto (*mahalla*) in Bukhara, Samarkand, Kermine, Tashkent, Shakh-rasiab [Shakhrisayabz], and other towns of Uzbekistan. This is immediately noticeable to the observer upon entering the Jewish quarters of those cities. Anthropologically, the Central Asiatic Jews appear as a splinter of the basic anthropological stratum of Anterior Asia, which had been driven into the Central Asiatic Interfluvial Region by the Jews who had settled in that area. The migration of the Jews into Central Asia began in the tenth century and was probably supplemented by subsequent new groups of immigrants. In such centers of Moslem fanaticism as Bukhara, Samarkand and other cities of Central Asia, chance mestization could only occur on a very limited scale. The dead-end wall of national and religious traditions and prejudices segregated the Jews from the local, autochthonous population and thus created the isolation necessary for the preservation of the type. Whereas our priority task was either to identify the Central Asiatic Interfluvial race with the Anterior Asia race or to examine each as an independent race, the Jews of Central Asia appeared to us as excellent comparative material.

In table 28 there appear data collected only by the writer, during the same period and at the same populated places. This guarantees the comparability of the descriptive characters of the various groups. In 1926 I investigated the Tadzhiks and the Jews of Bukhara. Next year I studied the Jews and Uzbeks in Shakh-rasiab. The Tadzhiks of Bukhara and also the Uzbeks of Shakh-rasiab appear as typical representatives of the Europeoid Race of the Central Asiatic Interfluvial Region. The presence of Mongoloid traits among the Shakh-rasiab Uzbeks can only be conjectured rather than proved.

Highly characteristic for the Anterior Asia type are the abundant hair growth on face and body, a sharply prominent nose with a high nasal bridge and a well-developed sulcus on the alae. Such a nasal form, which resembles a cursive numeral 6, has long been known among anthropologists as "Armenoid," and is encountered frequently among Armenians and other representatives of the Anterior Asia race.

The type of the Anterior Asia (Armenoid) is represented in photographs of Central Asiatic Jews (photos. 7-10).

From the comparison of the individual characters given in table 28, it may be seen that the Jews differ from the Tadzhiks and Uzbeks in the following: (a) more abundant beard growth; (b) horizontal facial profile with some degree of alveolar prognathism; (c) higher nasal base and nostrils; (d) less sloping alae; and (e) more convex profile.

The sum of these characters gives the Jews the appearance of a pronounced Anterior Asia Armenoid type. In regard to the cephalic index and the diameters which determine it, there is no substantial difference between Jews, Tadzhiks and Uzbeks.

On the other hand, one cannot fail to note that the differences between the brachycephalic Europeoids of Anterior Asia and those of Central Asia exhibit a trend in the same direction as the differences between Europeoids and Mongoloids in general.

The presence of the Mongoloid fold decreases rapidly--among the Jews I did not observe a single case. There is an increase in the tertiary hair cover, less flatness of the face, higher nasal base and nostrils, and the alae are less sloping. All these facts furnish a basis for supposing that the attenuation of the Armenoid features among the Europeoids of Central Asia is the result of mestization with Mongoloids through many centuries. This supposition is also supported by the presence of Armenoid features, as noted above, among the Pamir tribes and the Yagnobi, who live in isolation and have preserved their ancient Iranian languages.

4. Dolichocephalic Europeoid Khurasan Race

The historical relations of the population of Central Asia with that of Iran were particularly close and intensive. For this reason, we decided not to limit our investigations of the Turkomans to the Turkoman tribes [living in the Turkoman SSR], but also to examine as far as possible groups that migrated recently from Iranian provinces [Ostans] adjacent to Turkmenia. In 1929, I succeeded in recording in Ashkhabad, in accordance with a detailed schedule, anthropometric data on the Persians, natives of the Meshed region, and of Azerbaijanis, of the vicinity of Tabriz. In table 28a these groups, immigrants from Iran, are compared with the Mongolized dolichocephalic Europeoids of Central Asia, the Turkomans. In order the better to assure the comparability of qualitative characters, which play such an important role in the diagnosis of Central Asiatic races, I have used the data on the Teke-Turkomans, which I collected in 1929 in the city of Mary [formerly Merv] and of the Goklen, whom I investigated in the same year in the Sumbara Valley on the border of Iran. Thus, comparison is made on the basis of anthropometric data, recorded by the same investigator in the same year.

The results are as follows (table 28a):

1. No admixture of Mongoloid characters was observed among the Persians of Meshed and the Azerbaijanis of Tabriz. It is true that among the latter, as well as among the typically Europeoid Tadzhiks of Bukhara, the same insignificant percentage of the Mongoloid fold (2.0 per cent among the Bukhara Tadzhiks, 1.9 among Azerbaijanis) was observed, but this is not accompanied by corresponding changes in other diagnostically racial characters. The Azerbaijanis of Tabriz as well as the Persians of Meshed belong entirely with the confines of the Great Europeoid Race.

2. This Europeoid race, as well as the Transcaspian race, which I identified and which enters into the composition of the Turkomans, is characterized by a markedly pronounced dolichocephaly. However, in some important descriptive characters, such as more abundant beard growth, higher nasal base and absence of the Mongoloid fold, this Europeoid differs from the Transcaspian race. In general, in their heavier beard growth and more prominent nose, the Persians of Meshed and the Azerbaijanis of Tabriz reveal their similarity with the Anterior Asia or Armenoid race. This corresponds to the general impression obtained by a trained observer when hundreds of men, women and children of the given nationality pass before his eyes. We had no difficulty in distinguishing these Persians and Azerbaijanis from the Turkomans by their general Armenoid type. Nevertheless, these Iranian emigrants differ greatly from the Anterior Asia race by their very pronounced dolichocephaly. In short, they appear as a form of dolichocephalic Armenoids. According to their center of distribution, Khurasan in northern Iran, I once called their type the "Khurasan race." On the other hand, one cannot but note that the differences which distinguish Turkomans from the Persians of

Meshed and the Azerbaijanis of Tabriz are, in effect, attenuation of the Armenoid features of the former. It is possible that this attenuation is the result of many centuries of mestization between Turkomans and Mongoloids. For the time being, one thing is indisputable: the type of the population of northern Iran differs somewhat from that of the inhabitants of the Transcaspian steppes. Both these types occupy different territories, and have different areas of distribution. Therefore, they may be considered as different racial types, without prejudice, at present, to the question of their genetic relationship. The type of the Khurasan race is shown in photographs 11-14.

It is quite possible that further anthropological investigations may reveal other racial admixtures among the indigenous population of Central Asia. However, at present, it is possible to consider as definitely established the five above-mentioned racial types in the composition of its population--one Mongoloid and four Europeoid. Contemporary centers of their distribution were determined, a sufficiently full characterization of these races was given, while anthropometric and historical data served to determine more precisely the time of their appearance in Central Asia.

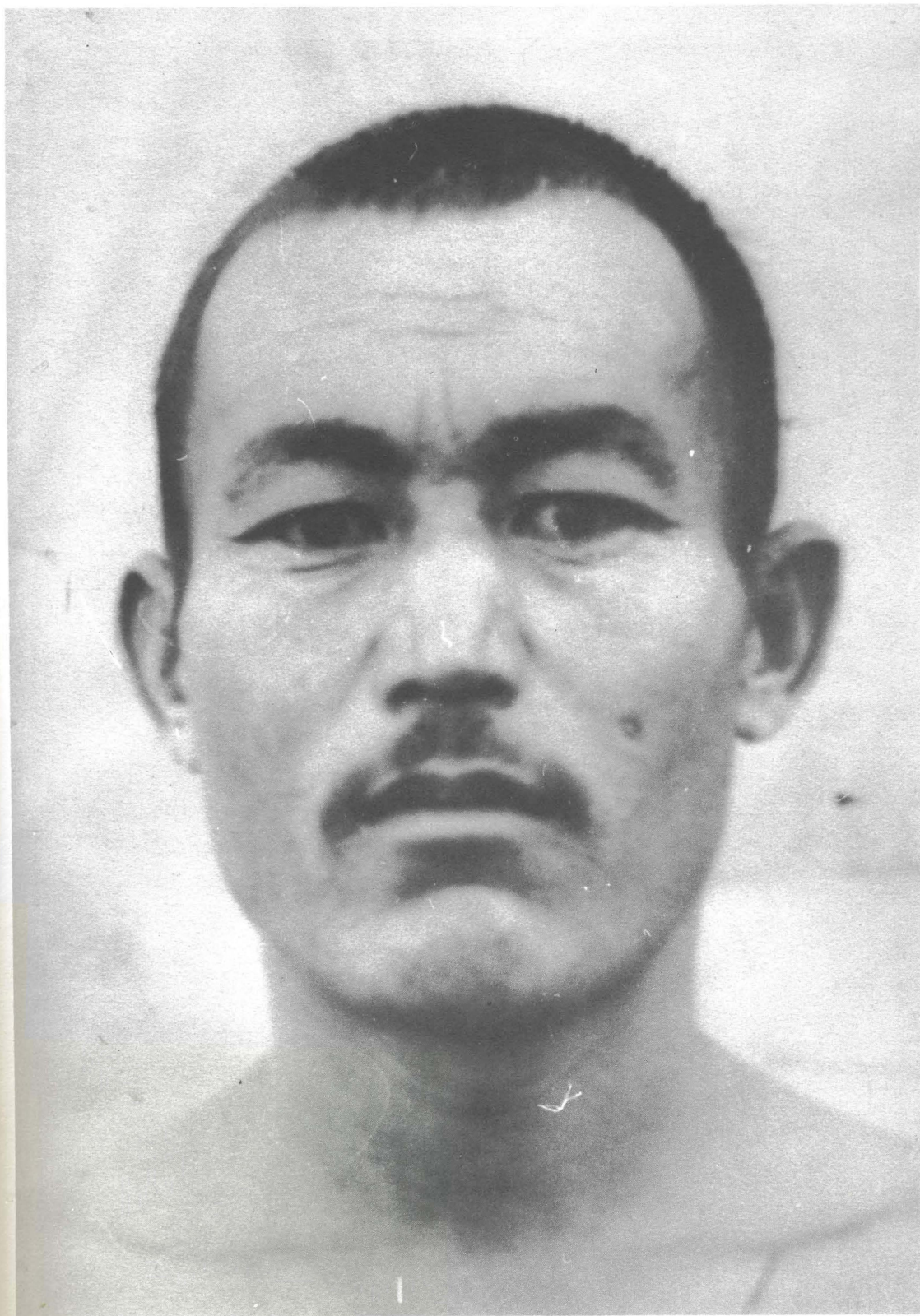


Figure 1. South Siberian Mongoloid type. Kazakh from Talass Valley.



Figure 2. South Siberian Mongoloid type. Kazakh from Talass Valley.



Figure 3. Europeoid brachycephalic type from Central Asiatic Interfluvial Region. Tadzhik from Bukhara.

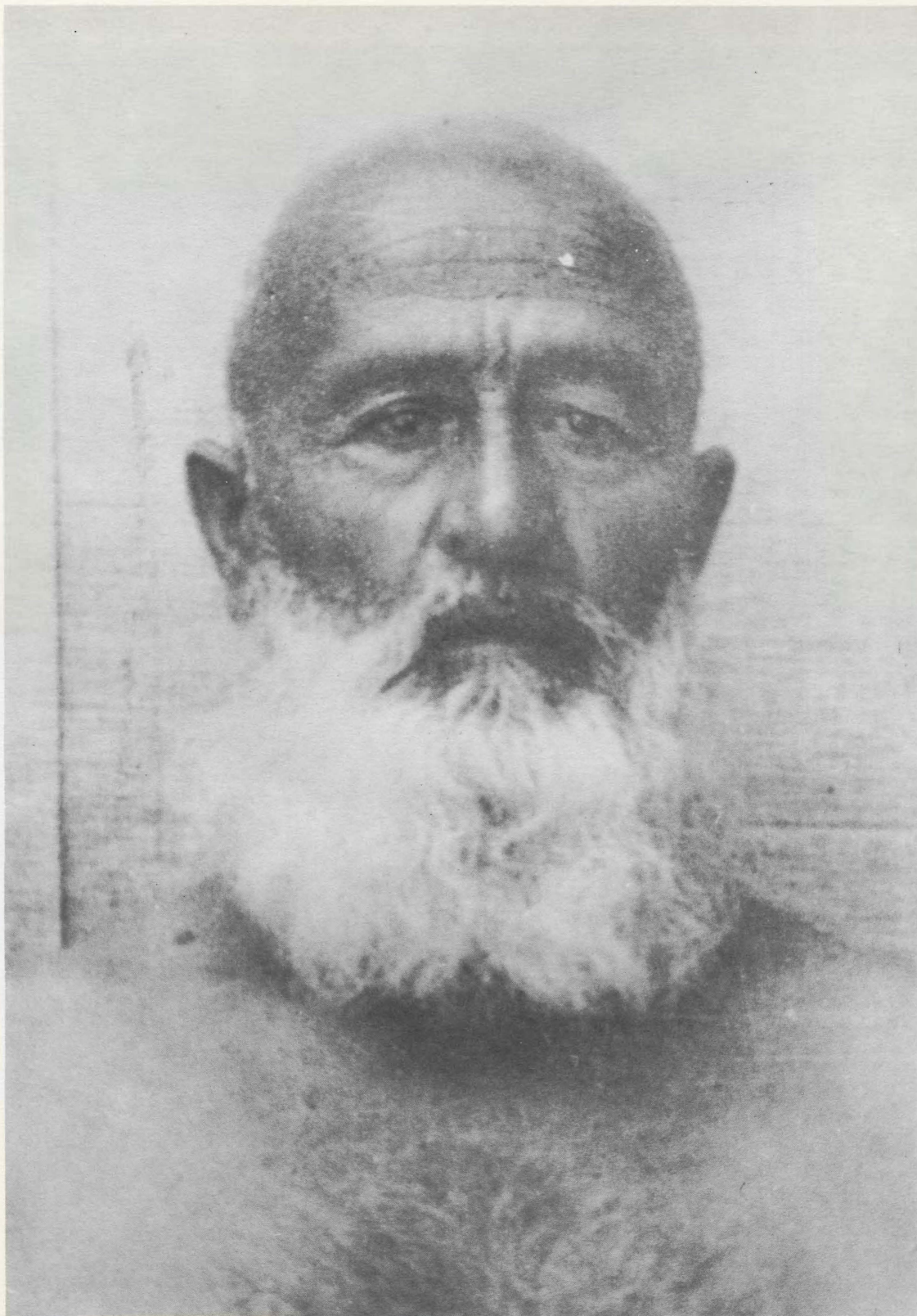


Figure 4. Europeoid brachycephalic type from Central Asiatic Interfluvial Region. Uzbek from Shakh-rasiab.

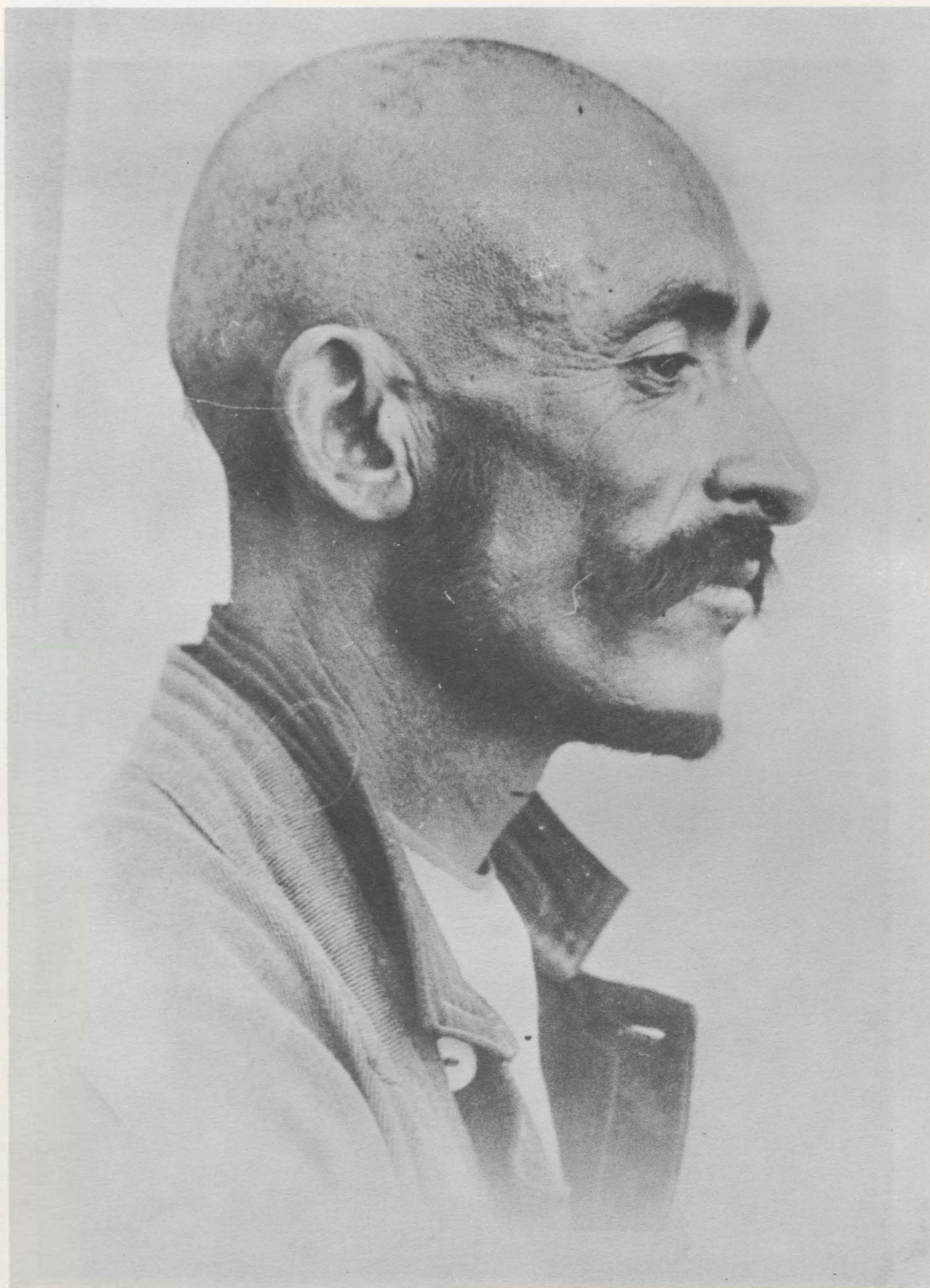


Figure 5. Dolichocephalic Europeoid Transcaspian race. Turkoman of Gokleni tribe.



Figure 6. Dolichocephalic Europeoid Transcaspian race. Turkoman of Gokleni tribe.



Figure 7. Europeoid brachycephalic Anterior Asia race. Jew from Samarkand.



Figure 8. Europeoid brachycephalic Anterior Asia race. Jew from Samarkand.



ILLUSTRATIONS

Figures 9-10. Europeoid brachycephalic Anterior Asia race. Jewish women from Samarkand.

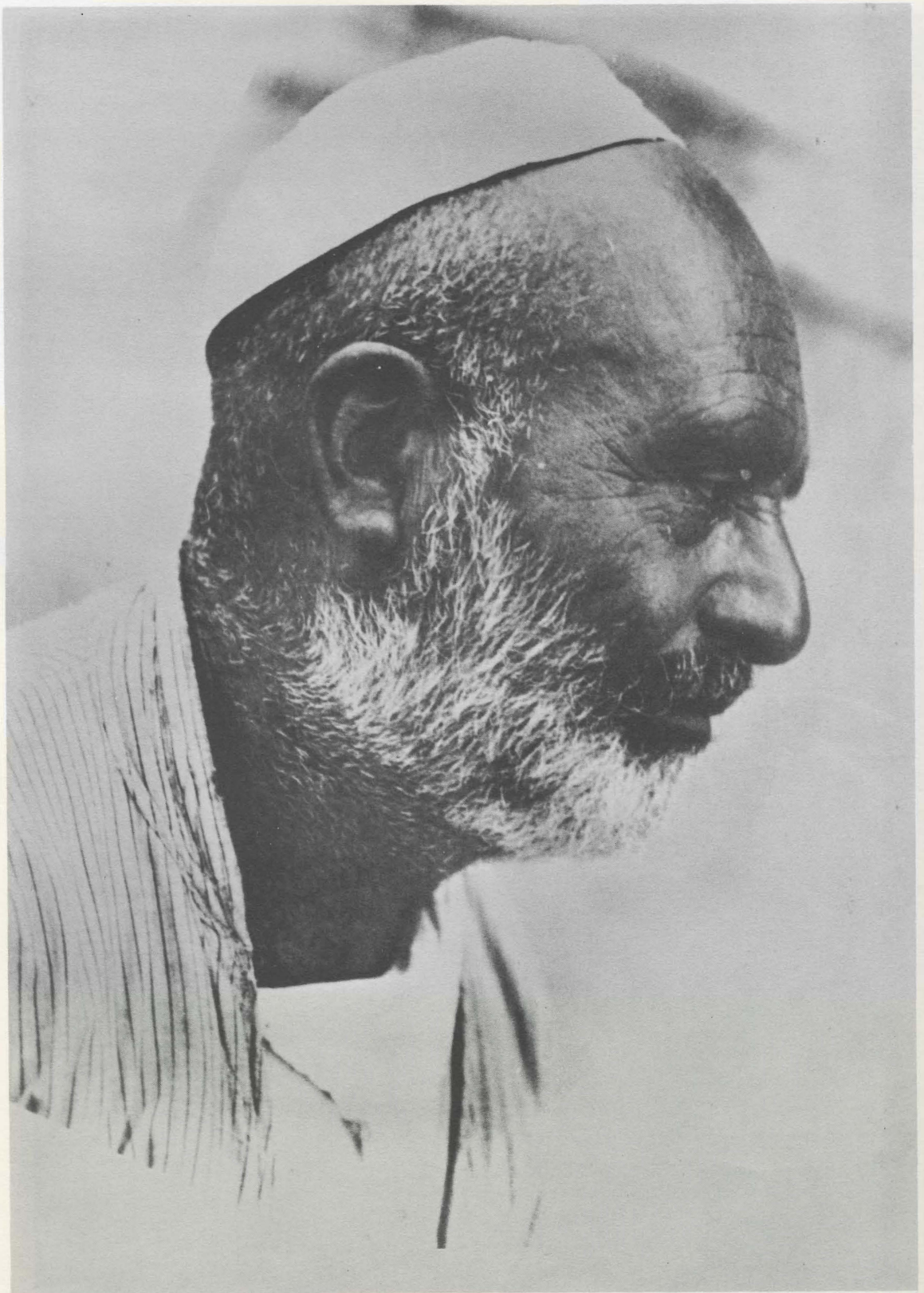


Figure 11. Dolichocephalic Europeoid Khurasan race. Persian from Meshed area.

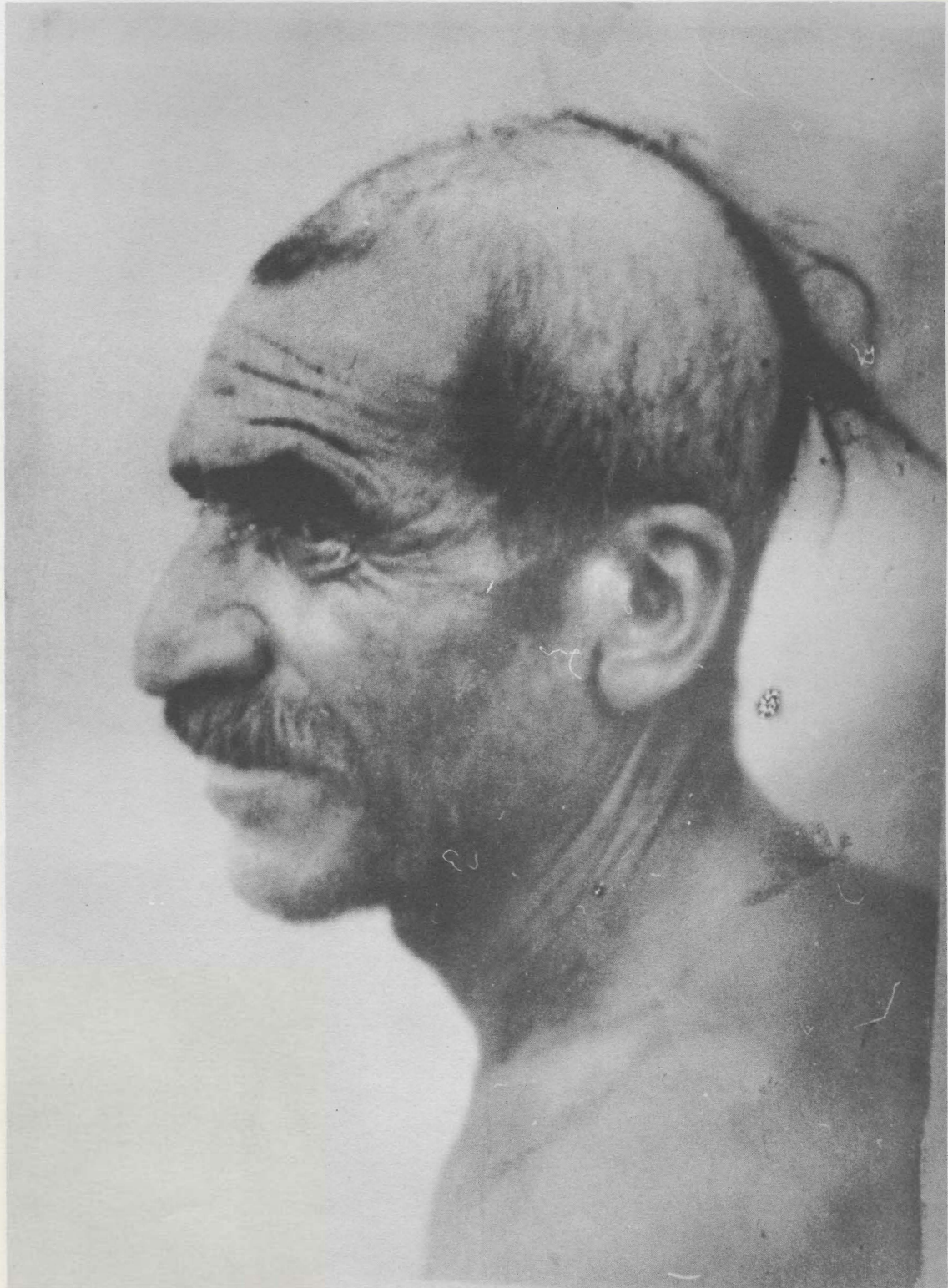


Figure 12. Dolichocephalic Europeoid Khurasan race. Persian from Meshed area.

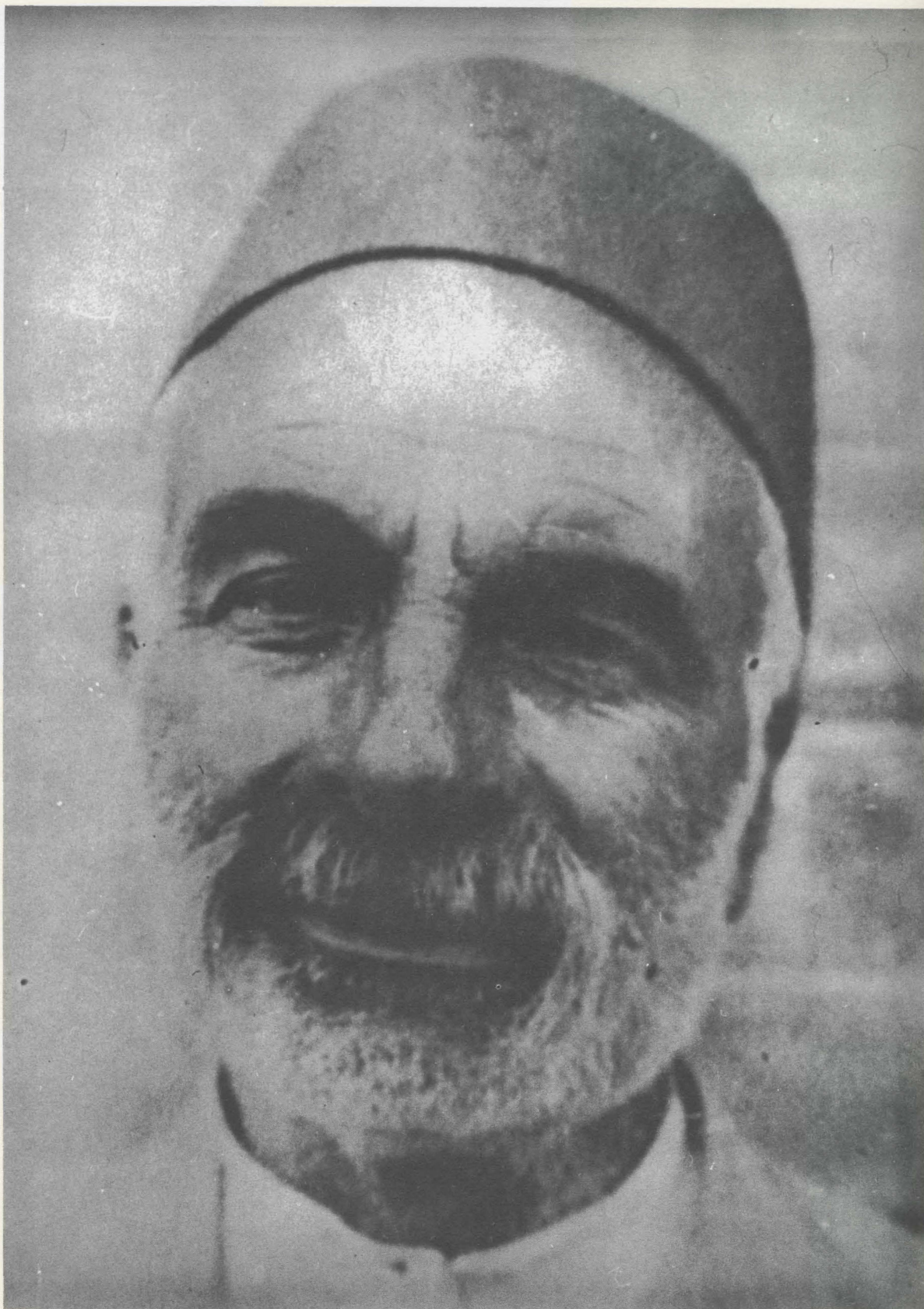


Figure 13. Dolichocephalic Europeoid Khurasan race. Azerbaijani from Tabriz area.

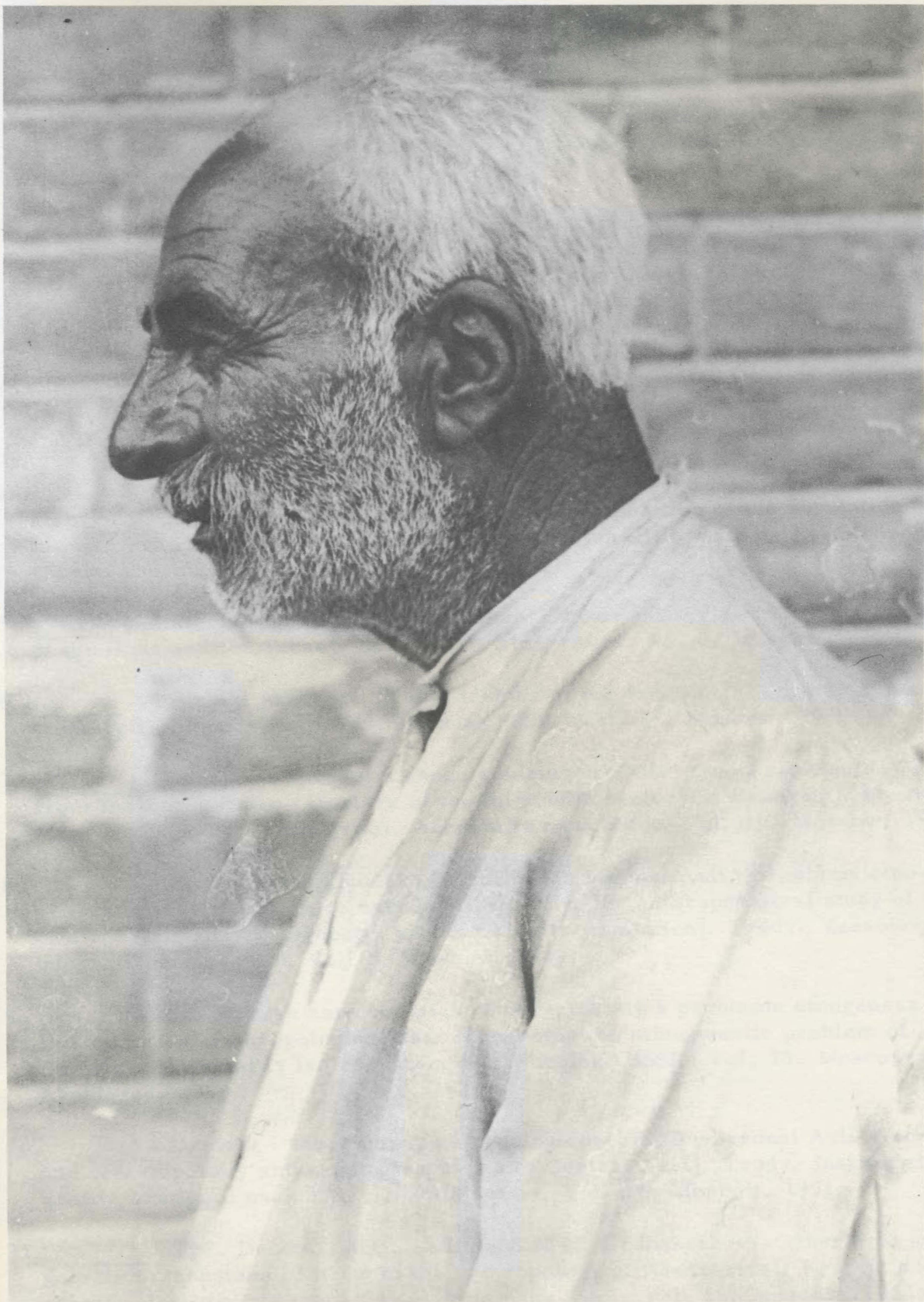


Figure 14. Dolichocephalic Europeoid Khurasan race. Azerbaijani from Tabriz area.

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NOTES

Introduction

1. Epigraph: "We know only one science, the science of History. Examining History from two sides, it can be divided into Natural History and Human History. However, both Histories are inseparably connected; inasmuch as people exist, Natural History and Human History are reciprocally predicated one upon the other." K. Marx and F. Engels.

2. "Iranian lands" in the original; evidently refers to those Iranian-speaking areas now under Soviet, Afghan, Chinese, etc. control, and not a part of historic Persia (E. V. P.)

3. This archaeological site was found on Afontova Gora--Afontova Mountain or Mt. Afontova. In subsequent passages this locality is referred to as Afontova site. (E. V. P.)

4. I selected Interfluvial in preference to Intrafluvial or Interfluminal to denote the region between the Oxus and Jaxartes, the Duab of Central Asia. (H. F.)

5. Now Ferghana or Fergana Province, northeast Uzbek SSR with capital at Kokand. (H. F.)

6. In some places I have used the form Usuns, which is Russian transcription of well-known ancient Chinese name. Here we will use only the more correct Wusuns. See also Footnote 13. (H. F.)

7. Al-Mukkadasi according to Encyclopedia Britannica; he flourished during the years 967-985. (H. F.)

8. Medieval Moslem State, later empire; not to be confused with Chorsmia, a province of ancient Persia in classical authors, or with Khwarazm, Khoresm, Khorezm, a city, also a region during Russian and Soviet rule only. (E. V. P.)

9. Ghuzz (pl. Ghuzzes) according to Encyclopedia Britannica, Hitti, etc. According to Webster's "Geographical Dictionary," the form Ghuz is used. Others use Oghuz. Nb. Khuzi refers to a different people in southwestern Iran. (E. V. P.)

10. In an earlier passage Oshanin included iconographic data which were grouped under "anthropological data," hence we followed text exactly. (E. V. P.)

11. Jou Jan (Russ. Zhuzhan) after Giles-Wade translation from W. M. McGovern. Jwen Jwen is used by Encyclopedia Britannica (fourteenth ed., 8:646a). See also "Ephthalites."

12. Juchi was one of the three sons of Genghiz Khan, whose domain was divided into three uluses, the largest and easternmost being known as ulus Juchi. (E. V. P.)

13. Uishun is evidently a recent self-name of a Turki tribe whom Oshanin identifies with the Wusuns. Nb. Usun is merely a Russian transliteration of an ancient Chinese name for which just the English form Wusun should suffice. See also Note 6.

14. I am using this phrase here and in the following paragraph for a rather untranslatable designation, literally "national union of Uzbeks." However, "unified Uzbek nation" is more accurate than another version "national association of the Uzbeks." (E. V. P.)

15. I prefer Yuz to IUz. (E. V. P.)

16. Turkization has been used in preference to Turkicization; see Fowler, "Modern English usage" under "Turk." (E. V. P.)

17. Reference here is evidently to the pre-Moslem, classical period, where Chorasmanian would be chronologically proper. (E. V. P.)

18. What follows is apparently post-Marrian (Stalin's) nomenclature for language categories which is apparently largely unrelated to correct Western usage. (E. V. P.)

Chapter I

1. U.S. Board on Geographic Names uses this form; the Library of Congress prefers IAgno**b**-Dar'ia. However, there are no maps published in the L.C. translation. (E. V. P.)
2. Although this map is mentioned in Oshanin's text (p. 39) it was not included in the publication. (H. F.)
3. I prefer this form to the archaic-sounding editorial "we." (E. V. P.)
4. In Russian text NARKOMDRAV.
5. SAGU--State University of Central Asia.
6. AN Uz. SSR--Academy of Sciences of the Uzbek SSR.

Chapter II

1. Does not include inordinately high percentage of epicanthus incidence among Kirghiz, possibly erroneously recorded by Oshanin in Issyk-kul (86.0%; N=100, 1924) and in the Talass Valley (85.0%; N=100, 1929).
2. 35.4% incidence was noted by IArkho only among the Mangyt tribe of Khwarizm (N=80). Excluding this group, maximum does not exceed 20.0% (in Kermine, N=95, Oshanin, 1926).
3. Does not include data on pre-draft group recorded in 1936 by Debets.
4. Does not include inordinately low grades noted by Elistratov, Shmakov [2, 17; 2, 31], and Nadzhimov [2, 17; 2, 46].
5. The data for Kirghiz and Kazakh are from the observations of N.I. Miklashevskaya, for the remaining peoples, according to Oshanin and other investigators.

Chapter III (table 19)

1. Tunguska is name of three tributaries of the Yenisei; Lower Stony and Upper Podkamennaya Tunguska (Stony) is 1,000 miles long and rises in southeast corner of Evenki National District and flows west-northwest into the Yenisei at about 61° 30' North. (Webster's "Geographical Dictionary," 1960).
2. Aged 25+.
3. 1=weak; 2=medium; 3=strong. These Kazakhs and Kirghiz were observed by Debets. The data on the Uzbeks and Tadzhiks from raions of Southern Tadzhikistan were recorded by members of the Department of Anthropology, State University of Central Asia (SAGU).
4. 1=strong; 2=medium; 3=weak. The notes under No. 3 also apply here.
5. Data for Nos. 11-14 refer to Reindeer Chukchi (Kamchatka).

Chapter IV

1. Under beard growth note 2.28 according to the three-grade system, i.e., above medium used by Bukinich; all other groups were recorded on the five-grade system.
2. Aged 25+.
3. Horizontal facial profile.
4. Position of nasal lateral walls.
5. Transverse position of nasal ridge.
6. General profile of nasal ridge.
7. Orbital position of eyeballs.
8. Morphological facial height.
9. Beard growth recorded by Bukinich on three-grade system; all others on five-grade system.
10. Excessively low-grades were obtained by Elistratov, Shmakov and Nadzhimov were not included.

Note: Nos. 1-7 are in table 20; No. 8 in table 21; No. 9 in table 22; and No. 10 in table 24.

